

of properties within the City. The overarching goal of these guidelines is to increase the level of design quality in the City, thereby creating a safer, more livable and more beautiful physical environment, suitable for the wide variety of community uses and needs. Project applications are evaluated on how well they exemplify the following design priorities: site planning, architecture, lighting, and signage. The manual outlines guidelines for each of these priorities.

#### **4.1.2.4 City of Vista Lighting Ordinance**

Section 18.58.280 of the City Municipal Code, Light Poles, establishes requirements for light poles that reduce light pollution. The ordinance requires that lighting only be used for illumination purposes, not for advertising; that light fixtures be designed not to reflect light away from any road or street, or any adjoining non-business or industrial uses; that lights be located on a single pole and are not more than 14 inches in diameter; and that lighting poles are at least 50 feet apart.

### **4.1.3 IMPACT SIGNIFICANCE CRITERIA**

Implementation of the DVSP Update would result in a significant direct impact related to aesthetics if it would:

1. Have a substantial adverse effect on a scenic vista or resource;
2. Substantially degrade the existing visual character or quality of the SPA and its surroundings; or
3. Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area.

### **4.1.4 METHOD OF ANALYSIS**

The section below gives full consideration to the development of the SPA and acknowledges the physical changes that are proposed to the existing setting. Impacts to the existing environment were determined by comparing the visual setting of the SPA before and after implementation of the proposed project. Although few standards exist to define the various individual perceptions of aesthetic value from person to person, the degree of visual change can be measured and described in a reasonably objective manner in terms of visibility, visual quality, dominance, and magnitude. The degree of visibility is a function of screening. Terrain, vegetation, and/or buildings may provide screening, and the degree of screening may be affected by angle of view, distance, meteorological conditions, and the time of day. The closer the feature is to the center of the view area, the greater the impact. Perception of details (i.e., form, line, color, and texture) diminishes with increasing distance. Current residents and workers in and adjacent to the SPA, and travelers along S. Santa Fe Avenue, Vista Village Drive, Escondido Avenue, Main Street, and other streets within the project area would have the potential to be sensitive to an aesthetic alteration of the SPA.

Visual sensitivity can be described as viewer awareness of visual changes in the environment and is based on viewers' activities in public areas near a particular site or area. Overall, higher degrees of visual sensitivity are associated with residential areas, outdoor recreational activities, and scenic driving. Areas with industrial or commercial uses are considered to have low to moderate visual sensitivity, as activities conducted in these areas are not significantly affected by the quality of the environment. Sensitivity is based on the overall visual character and visibility of the existing SPA.

As discussed above, KVPs from public streets throughout the SPA were selected to evaluate the visual quality of the SPA. Visual quality is the value of visual resources; such as landscapes that are visually pleasing or that are assigned a high public value. Visual quality is affected by the presence or absence of man-made alterations, the dominance of either natural or man-made features, and whether landscape features are harmonious or discordant to the viewer.

## **4.1.5 PROJECT IMPACTS AND MITIGATION**

### **4.1.5.1 Issue 1 – Scenic Vistas or Resources**

*Would implementation of the DVSP Update have a substantial adverse effect on a scenic vista or resource?*

#### **IMPACT ANALYSIS**

The scenic vistas and resources within the SPA consist of views from Alta Vista Drive, Vista Village Drive (formerly E. Vista Way) and the San Marcos Mountains. Implementation of the DVSP would result in a significant impact if future development would have a substantial adverse effect on these views.

#### **Alta Vista Drive**

Alta Vista Drive, located in the eastern portion of PA-2, is identified as a designated scenic roadway in the Community Identity Element of the General Plan. The road is currently developed with municipal, residential, and office land uses. However, only a short length of Alta Vista Drive is located within the SPA, from the intersection with Escondido Avenue extending a short distance to the east. No scenic views are currently visible from the portion of Alta Vista Drive within the SPA. Views of the historic areas for which the roadway is designated as scenic are blocked from the section of roadway within the SPA under existing conditions. Rancho Buena Vista Adobe is located along Alta Vista Drive; however, a long driveway sets the historic structure back from the roadway. It is blocked from view from the roadway by development and trees. The Development Standards in Section 4.2 of the DVSP Update establish a four-story building height limit for PA-2. The existing buildings along Alta Vista Drive are two-story buildings. In some cases, an increase in building height from two to four stories would have the potential to block views from a scenic roadway. However, because views of historic areas are currently blocked by existing trees and buildings, an increase in building height up to four stories total would not further obstruct the view of any scenic vista or resource from the brief length of Alta Vista Drive that is located within the SPA. Therefore, implementation of the DVSP Update would not result in a significant impact to scenic vistas or resources on Alta Vista Drive within the SPA.

#### **Vista Village Drive (formerly E. Vista Way)**

Vista Village Drive is not a designated scenic roadway, but is acknowledged in the Community Identity Element of General Plan for providing important views of the historic district. The DVSP Update includes a Character Overlay Zone for the historic district, including the portion visible from Vista Village Drive, which would preserve and enhance the historic character and visual quality of the downtown area by maintaining the ambience and design context of the historic downtown area. Development standards and guidelines for this area are proposed to ensure that an adverse impact to the public views of the historic district from Vista Village Drive would not occur. Additionally, any development along Vista Village Drive would be required to comply with the policies established for Vista Village Drive and the General Design Standards in the Community Identity Element. Therefore,

implementation of the DVSP Update would not result in a significant impact to scenic vistas or resources on Vista Village Drive within the SPA.

### **San Marcos Mountains**

The San Marcos Mountains are currently visible in the SPA from areas within the southwestern portion of PA-3 and the western portion of PA-4. Views of the mountains are also visible off site from higher elevations west of PA-1b, PA-3, and PA-4.

On-site views of the San Marcos Mountains within the SPA are visible in portions of PA-3 and PA-4. Due to the difference in elevation between surrounding development and S. Santa Fe Avenue in PA-3, views of the San Marcos Mountains are currently not available from most of PA-3. However, the southwestern area of PA-3 adjacent to Escondido Avenue does provide some views of the mountains. In addition, the mountains are also visible from the higher elevations in the western portion of PA-4, namely along Escondido Avenue west of S. Santa Fe Avenue. The views of the San Marcos Mountains from these planning areas are currently partially obstructed by existing buildings, trees and light poles (refer to KVP #7 on Figure 4.1-5). Due to the orientation of the planning areas in relation to the San Marcos Mountains, the views in the southwestern portion of PA-3 and western portion of PA-4 would have the potential to be blocked by new development in the eastern portion of PA-4. Most development in PA-4 is currently one or two stories. The DVSP Update would allow for varied building heights up to 4-stories in PA-4. However, densities are proposed to increase toward the core of the planning area, which is located at the lowest elevation in the planning area (approximately 360 feet AMSL). The mountains are visible above a developed ridgeline that exceeds the height of all existing development in PA-4, at approximately 520 feet AMSL at its highest. It is not anticipated that new development in the PA-4 core area would exceed the height of this ridgeline. Therefore, views of the San Marcos Mountains would remain visible from the southwestern portion of PA-3 and the western portion of PA-4.

Off-site views of the San Marcos Mountains are visible from areas to the west of PA-1b, PA-3 and PA-4. Views of the San Marcos Mountains are not currently visible from within PA-1b due to the increase in elevation to the east of the planning area as compared to the remainder of the planning area, which is at about 400 feet AMSL. However, views of the mountains can currently be seen from the residences located to the west of PA-1b, at elevations of approximately 440 feet AMSL and higher. In addition, areas to the west of PA-3 at elevations of approximately 400 feet AMSL and above and areas to the west of PA-4 at approximately 440 feet AMSL and above also have existing views of the San Marcos Mountains. The DVSP Update would have the potential to accommodate new development in PA-1b, PA-3 and PA-4 that would be up to four stories in height, as compared to existing development in the SPA which is generally one or two stories in height. However, the residential development to the west of these planning areas is located at elevations of approximately 40 feet or higher than the adjacent planning area. Therefore, the increase in building height up to four stories within the SPA would not block existing views of the San Marcos Mountains from residential areas to the west of planning areas PA-1b, PA-3 and PA-4.

### **SIGNIFICANCE OF IMPACT**

Because implementation of the DVSP Update would not obstruct existing views from Alta Vista Way, Vista Village Drive, or the San Marcos Mountains, the DVSP Update would not result in a substantial adverse effect on a scenic vista or resource. Impacts would be below a level of significance.

### **MITIGATION MEASURES**

Implementation of the DVSP Update would not result in a significant impact to a scenic vista or resource. Therefore, no mitigation is required.

#### 4.1.5.2 Issue 2 –Visual Character or Quality

*Would implementation of the DVSP Update substantially degrade the existing visual character or quality of the SPA and its surroundings?*

##### IMPACT ANALYSIS

As described above, nine KVPs were selected to represent the existing visual character and quality of the SPA.

The views shown in KVPs #1 through #9 would be altered by future development accommodated by the DVSP Update. The following discussion describes potential alterations to the visual character or quality of each planning area and the KVPs located within them that would occur as a result of the DVSP Update.

The area-wide and planning area-specific design and development plans proposed in the DVSP Update establish specific land use regulations and design guidelines that would be applied to future development in the SPA. Future individual development projects in the SPA would be assessed for consistency with the DVSP Update design and development plans by the City as part of the project approval process. These design and development plans would enhance the visual character and quality of the SPA, as discussed below for each planning area.

##### PA-1 (including PA-1a and PA-1b)

PA-1a includes the historic downtown area and the Vista Transit Center, which acts as an entry point to the planning area. PA-1b is the southernmost entrance to the SPA, and includes commercial development along S. Santa Fe Avenue, with commercial and multi-family residential land uses on the surrounding streets in the planning area. Some development in PA-1 maintains a rustic feel with building materials such as wood, while newer development has primarily beige stucco exteriors. With implementation of the DVSP Update, this planning area would continue to provide mostly commercial and residential uses, with the addition of some mixed use and retail development. The overall vision for this planning area, as described in Section 4.1 of the DVSP Update, Planning Area One Design and Development Plan, encourages mixed use residential and retail opportunities, as well as gateway entry and exit points to and from the SPA. Additionally, a compact mix of land uses in PA-1a is encouraged that would improve connectivity between the historic district and surrounding land uses. The Character Defining Elements and Guidelines for PA-1 include an architectural design that complements the architectural styles of the surrounding areas. Additionally, the DVSP Update would encourage pedestrian activity and transit utilization to promote PA-1a and PA-1b as entryways to the SPA by improving pedestrian access. The Development Standards, Character Defining Elements and Guidelines, and Landscape Design Plan guidelines that would enhance the overall visual quality of PA-1 are described below.

##### KVPs

KVP #1 provides a view of the historic downtown district from Indiana Street looking northwest toward Main Street, which includes primarily commercial development with design guidelines in place to maintain a historic feel in the area. The DVSP Update includes a Character Overlay Zone for this portion of PA-1 which would preserve and enhance the historic character and visual quality of the downtown area by maintaining the ambience and design context of the historic downtown area. Development standards and guidelines for this area are proposed to ensure that an adverse impact to the visual quality of public views of the historic district would not occur. Additionally, Guiding Principle #4 for PA-1 recommends preserving and enhancing development that acknowledges the unique history and community identity of Vista, especially resources located in the historic downtown. Therefore, the visual character and quality of this KVP would not be adversely affected by the implementation of the DVSP Update.



KVP #2 provides a view of commercial and residential development in PA-1a. KVP #3 is a view of PA-1b from S. Santa Fe Avenue. Currently, development in PA-1 is disconnected with areas of unmaintained landscaping. Under the DVSP Update, these areas would accommodate mixed use residential and retail development, which would be compatible with the character of existing land uses. In addition, landscape guidelines are proposed for the planning area which would require a consistent street landscape design. Therefore, the DVSP Update would maintain and enhance the residential and commercial character of PA-1.

### ***Design and Development Guidelines***

Area-wide design and development guidelines for the entire SPA, from Section 3.0 of the DVSP Update, Area-Wide Design and Development Plan that would improve the visual quality of PA-1 include the following:

- Section 3.5.1, General Provisions
  - Utilities. New public utility distribution lines shall be installed subsurface throughout the SPA.
- Section 3.5.2, General Operating Standards
  - Landscaping Standards
    - Landscape maintenance shall be performed on a regular basis to ensure the visual quality of the landscaped areas. Replacement of dead, diseased, or damaged landscaping shall be replaced by material of equal size and maturity.
    - Use of an approved landscape palette is required. Project applicants shall use only approved landscape materials for the SPA, as determined by the Community Development Director. The landscape palette may be modified based upon unique site conditions.
    - Surface parking lots shall be landscaped in an amount equal to five percent of the total parking lot area.
  - Fences and Walls. The use of barbed wire concertina wire, electronically charged fences, plain exposed concrete block, plastic materials, chain link and grape stakes are prohibited.
- Section 3.5.3-A, Parking Structures and Garages
  - Parking Structure Design. Vehicles shall be concealed from view through a combination of screen walls and plantings.
- Section 3.5.3-B, Retail and Entertainment Development
  - Architectural Design. Buildings shall consist of quality architectural features.
  - Façade. Unarticulated wall surfaces shall not exceed 50 feet in length. Facades exceeding 50 feet in length shall incorporate projections, recessed and offsets to minimize the appearance of long blank walls.
  - Trash/Service/Delivery Areas
    - Trash, service and delivery areas shall provide adequate screening and buffering to minimize visual impacts from the public right-of-way and adjacent properties.
    - Requirements for Publicly Accessible Amenities

- For destination/entertainment, development applicants shall be required to provide usable exterior publicly accessible amenities on site.
- Section 3.5.3-C, Mixed-Use Development
  - Trash Collection Areas. Trash collection areas shall be contained within an enclosed structure. Trash collection areas shall be designed, located or screened so as not to be readily identifiable from adjacent streets.
  - Loading and Storage Facilities. Loading areas and solid waste storage facilities shall be located as far as possible from on-site residential units and shall be completely screened from view from adjacent residential portions of the project. The location and design of the solid waste enclosures shall account for potential nuisances from odors and noise from collection vehicles.
  - Exterior Equipment. All exterior mounted equipment, including public transportation facilities, shall be screened from view. Special consideration shall be given to the location and screening of noise-generating equipment (e.g., air conditioning, exhaust fans, refrigeration units, etc.). Noise reducing screens and insulation may be required where equipment has the potential to impact residential uses. Satellite dish systems must be roof mounted and screened from view.
  - Outdoor Space for Residential Uses, Mixed-use Projects. Landscaping and seating shall be permanently integrated into all publicly accessible outdoor spaces.
  - Building Design, Mixed Use Projects. A mixed-use project shall be designed and constructed to:
    - Be compatible with and complement adjacent land uses;
    - Maintain or enhance the character of development in the immediate neighborhood;
    - Maintain or increase the existing number of residential units generally and specifically those for seniors and a variety of income levels; and
    - Mitigate glare, light, noise, traffic, and other potential environmental impacts to the maximum extent feasible.
  - Rooftop equipment. Rooftop equipment, except solar energy equipment, shall be completely enclosed on all sides or screened from view of public rights-of-way.
  - Landscaping. All street setback areas and other areas not occupied by buildings, parking, driveways, walkways, and other incidental residential activities shall be fully landscaped with live plant materials and shall be permanently maintained in a neat and orderly manner.
- Section 3.7, Common Design Principles
  - High Quality. Maintain a high level of expectation for quality development.
  - Development Character. Promote a consistent and coherent rhythm of structures and open spaces along the street edge.
- Section 3.8.1, Area-wide Guidelines
  - Architecture Design Elements
    - Architectural Imagery: Articulate building forms and elevations to create interesting roof lines, building shapes, and patterns of shade and shadow while maintaining compatibility with surrounding buildings.
  - Lighting. Pedestrian-scaled lighting for sidewalk and street illumination is encouraged.

- Section 3.8.2, General Commercial
  - Site Planning and Design Details
    - Building Siting. Building siting and design should encourage pedestrian activity.
    - Pedestrian Activity Areas
      - Development should provide site amenities and other design features that encourage pedestrian use.
      - When possible, buildings should be clustered to create courtyards, plazas and outdoor dining areas.
      - Pedestrian activity areas should provide site amenities such as seating areas, public art, water features and other appropriate amenities that encourage pedestrian utilization.
      - Pedestrian activity areas should provide a sufficient level of shade for users. Landscaping, canopies or other methods of providing shaded areas are strongly encouraged.
  - Parking and Circulation Guidelines
    - Pedestrian Circulation. Unobstructed visibility and clear delineations between pedestrian paths and vehicular travel aisles should be provided. Use of landscaping, walkways, and decorated hardscape to delineate pedestrian circulation is encouraged. Safe, convenient pedestrian links should be designed between parking areas and businesses.
  - Architectural Design Elements
    - Architectural Imagery. Design features must be consistent on all elevations of structure. Side and rear elevations visible from public accessible spaces should receive the same design considerations as the primary public elevation.
  - Building Facades
    - Primary building entries should provide a prominent sense of entry for easy identification. The use of architectural projections, columns, entry lobbies or other design elements are strongly encouraged.
    - The size of doors and windows should relate to the scale and proportions of the overall structure.
  - Roofs. Roofs should be given design consideration and treatment consistent to that of the rest of the building exteriors.
  - Storage, Refuse, and Equipment Screening. Storage, refuse and equipment areas should be screened from publically accessible spaces and/or neighboring residential uses. Landscaping and/or architectural enclosures can be used to screen these areas.
  - Landscaping
    - General. Landscaping should enhance the quality of commercial developments by framing and softening the appearance of buildings, screening undesirable views, buffering incompatible uses and providing shade.
    - Parking Lot Landscaping
      - Landscaping should be used to separate parking from buildings and to reduce the visual impact of paved surfaces.

- Parking lots should be separated from the street frontage by a landscape buffer to reduce visual impacts. 3.8.3-F, Large Anchor Retail Guidelines
- Building Design
  - Distinct and interesting rooflines instead of flat roofed structures are encouraged.
  - Exterior wall treatments such as arcades, porticos, offset planes and colonnades should be used to break up the mass and scale of the building.
- Section 3.8.3-J, Storefront Retail
  - Building Orientation
    - Parking should be located in the rear of the property, on alleys, or side streets.
    - Pedestrian paseos between buildings are strongly encouraged.
    - Corner setbacks and cut-offs are strongly encouraged to facilitate pedestrian movement and enhance visual interest.
  - Building Design
    - In two-story or taller buildings, a cornice should be provided at the second floor to differentiate the storefront from upper levels of the building and to add visual interest.
    - Buildings located on street corners should have prominent corner entrances. Special architectural features such as gables, turrets, towers, or similar elements should be used to accent buildings at street corners and at the terminus of a street corridor, alley, or pedestrian way.
- Section 3.8.3-K, Mixed-Use
  - Site Organization
    - Distinctive architectural features should be used to differentiate the commercial entrances from the residential entrances.
    - Commercial loading areas and refuse storage facilities should be placed as far as possible from residential units and be completely screened from adjacent residential development.
  - Building Design
    - The architectural style and use of materials should be consistent throughout the entire mixed-use project. However, differences in materials and/or architectural details may occur to differentiate the residential portion of the project from the commercial portion of the project.
    - The design of storefronts should be consistent with the design guidelines for general commercial development and storefront retail. The residential portion of a mixed-use project should be consistent with the City's design guidelines for multi-family development.
    - Transparency between the commercial spaces on the ground floor and the street is highly encouraged.
- Section 3.8.4, Residential Design Guidelines
  - Site Planning. The siting of buildings should consider the existing neighborhood context. Developments should generally be oriented parallel to public or internal streets, with some setback variation to provide visual interest.



- Miscellaneous Site Elements
  - Refuse Storage Areas. Refuse storage should be screened from publicly accessible areas.
  - Building Scaling and Massing
    - Architectural elements such as bay windows, recessed or projecting balconies, porches or other elements that add visual interest, human scale and character to the neighborhood are encouraged.
    - Varied building heights are encouraged to provide visual interest and give the appearance of a collection of smaller structures. The development's building height should create a transition from the heights or adjacent development, rather than abrupt height changes.
  - Roofs. Roofs should be given design consideration and treatment equal to the building facades.
  - Public Safety through Design. Pedestrian scale lighting fixtures that provide good levels of illumination are encouraged.

Design and development guidelines specific to PA-1 that would enhance the visual quality in this planning area include:

- Section 4.1.4, Character Defining Elements and Guidelines
  - Development should create and enhance pedestrian connections within the district and with adjacent areas including the Sprinter Station and Vista Village.
  - Public open spaces such as small plazas or courtyards should be integrated into the pedestrian network.
  - Pedestrian paseos that link buildings or open spaces are encouraged.
- Section 4.1.5, Landscape Plan
  - The streetscape of Vista Village Drive, the location of the transit center and gateway to the DVSP area, would be improved with a bold, continuous design that would include repeated use of plant material and hardscape elements in median and parkways.

Implementation of these area-wide and planning area-specific design and development guidelines would enhance the visual quality of public views in PA-1; therefore, development under the DVSP Update would not degrade the existing visual character or quality of PA-1.

## PA-2

The eastern portion of PA-2 is adjacent to the historic downtown area and is dominated by municipal and commercial uses that maintain the rustic feel of the historic district, but do not have the façade and design coordination of Main Street. This area also includes parks and play fields that provide green space. The DVSP Update proposes to maintain the existing recreational facilities in the planning area and proposes mixed use, restaurant, retail, and office land uses as part of the overall vision for this area, compatible with the existing character of the area. The Character Defining Elements and Guidelines identified for PA-2 state that views from the Buena Vista Creek Walk and other park and open space areas should be maintained. Additionally, a general design objective in the area-wide guidelines encourages views from parks and open space areas within the SPA to be maintained. The community design plan for this area includes landscaping that would build upon existing plant material and hardscape already found in the planning area. Additionally, a guiding principle for PA-2 is to improve and enhance visual connectivity

between the Civic Center, retail, office, and housing development within the planning area. Therefore, implementation of the DVSP Update would not have a substantial adverse effect on the existing visual character or quality of PA-2.

### ***KVPs***

KVP #4 provides a view of Vista Village in the western portion of PA-2. This area has already been redeveloped and future development in this planning area under the DVSP Update would build upon the existing major commercial, retail, and entertainment center. No alterations to the visual character or quality of this KVP would be expected to occur under the DVSP Update because the overall vision for future development in this area is to build upon the coordinated design and landscaping, pedestrian plazas, and clear pedestrian walkways already established in the Vista Village area (Section 4.2, Planning Area Two Design and Development Plan, Subsection B). Therefore, development under the DVSP Update would not degrade the existing visual character or quality of the western portion of PA-2.

KVP #5 provides a view of Alta Vista Drive. As described above, Alta Vista Drive is a designated scenic roadway in the General Plan, although no scenic vistas are currently visible from the short segment of the scenic roadway located in PA-2. Views from this roadway consist of trees and the existing municipal and office development. The DVSP Update proposes municipal uses and services for this area. Section 4.2, Planning Area Two, Design and Development Plan, identifies preservation of the existing Rancho Buena Vista Adobe, Wildwood Park, the library, and the new City Hall as part of the overall vision for the planning area. The new City Hall is currently under construction. Therefore, future land uses under the DVSP Update would be consistent with the character of existing land uses. Additionally, improvements to landscaping and architectural design as part of implementation of the DVSP Update would enhance the visual quality of public views along Alta Vista Drive and views of the SPA from surrounding residences, as compared to the existing condition.

### ***Design and Development Guidelines***

The area-wide design and development guidelines for the entire SPA identified above under PA-1 would also apply to land uses in PA-2. The implementation of these guidelines would improve the visual quality of PA-2.

The DVSP Update would also enhance the visual quality of PA-2 through implementation of the following planning area-specific design and development guidelines:

- Section 4.2.2, Development Standards
  - Open Space Requirements
    - Residential uses: 200 SF/unit
    - Non residential uses: 10 percent of lot area
  - Landscaping Requirements. 10 percent of lot area
- Section 4.2.3, Character Defining Elements and Guidelines
  - New development in Vista Village should complement the existing development in scale, architectural design, and building orientation.
  - Pedestrian connections between the civic uses, Vista Village and the downtown should be created and enhanced.
  - Outdoor public spaces and amenities should be emphasized to create community gathering places.

- Views from the Vista Village Creek Walk and other park and open space areas should be maintained.
- Uses along Alta Vista Drive should acknowledge the scenic nature of the area.
- Section 4.2.4, Landscape Design Plan
  - Bold, continuous design is proposed that would include repeated use of plant material and hardscape elements in median and parkways. Date palms will be utilized to highlight entry and focal point areas.

Implementation of these design and development guidelines would enhance the visual quality of public views in PA-2; therefore, development under the DVSP Update would not degrade the existing visual character or quality of PA-2.

### PA-3

The overall vision for PA-3 is for this area to be a primarily retail district that would include unique shops, art galleries, ethnic restaurants, and other uses that would foster a creative atmosphere, promote this planning area as a cultural center, and attracts artists, performers, and small businesses. Several unique shops and ethnic restaurants currently exist in the planning area near Guajome Street, consistent with the land uses proposed in the DVSP Update, but the lack of building setbacks and streetscaping, as well as the prominence of the utility lines, discourages walkability along S. Santa Fe Avenue. Additionally, the presence of vacant lots and small one to two-story business do not utilize this planning area to full capacity. Therefore, the DVSP Update would maintain the existing character of the land uses in PA-3, but allow PA-3 to be utilized to its actual development capacity, while enhancing the visual quality of the planning area, as described below. Additionally, the DVSP Update promotes the redevelopment of the streetscape of S. Santa Fe Avenue to be highly walkable.

#### *KVPs*

KVP #6 provides a view of S. Santa Fe Avenue in PA-3. As discussed above and shown in this view, development along S. Santa Fe Avenue lacks streetscaping and utility lines are a dominant visual feature. Under the DVSP Update, this corridor would accommodate retail development, which would be compatible with the character of existing land uses. The visual quality of views from the residences on either side of PA-3, as well as views from S. Santa Fe Avenue inside the planning area, would be enhanced by building façade and proposed streetscape improvements, as well as the undergrounding of the utility lines. Therefore, the DVSP Update would maintain and enhance the retail character of this KVP.

#### *Design and Development Guidelines*

The area-wide design and development guidelines for the entire SPA identified above under PA-1 would also apply to land uses in PA-3. The implementation of these guidelines would improve the visual quality of PA-3.

In addition, the DVSP Update would enhance the visual quality of PA-3 through the following planning area-specific design and development guidelines:

- Section 4.3.2, Development Standards
  - Open Space Requirements
    - Residential uses: 200 SF/unit
    - Non residential uses: 10 percent of lot area

- Landscaping Requirements
  - 5 percent of lot area, may include open space areas
- Section 4.3.3, Character Defining Elements and Guidelines
  - Buildings should be built to the side and front property lines to define and frame the public realm.
  - Mid-block pedestrian activity areas and paseos between bridges area encouraged.
  - Buildings between Santa Fe and Mercantile should address both streets. The rear of buildings and any parking areas should have the same design considerations as the frontage along Santa Fe.
  - Commercial development should consider both vehicular and pedestrian orientation.
  - Architectural diversity is encouraged while relating to the surrounding built environment in pattern, function, scale and character.
  - Residential uses should be integrated into the area through pedestrian connections and/or building adjacencies.
- Section 4.3.4, Landscape Design Plan
  - Contribute to a positive visual image along Santa Fe Avenue and Mercantile through the establishment of streetscape elements, landscaping, and quality site design.
  - Landscape features will be utilized along pedestrian paths, within alley-like development, and will be utilized in front of proposed shops, art galleries, ethnic restaurants, live-work units, and other complimentary uses.

The DVSP Update would enhance the commercial and retail character of PA-3 by allowing this area to be utilized to its full capacity, as well as improve the visual quality of the planning area. Therefore, the DVSP Update would not degrade the existing visual character or quality of PA-3.

#### PA-4

PA-4 is a primarily commercial area with some residential uses. The DVSP Update proposes commercial and residential development compatible with existing land uses, although the plan would increase the scale and density of development in this planning area. The existing area is urbanized and developed, and an increase in scale and density would be consistent with the commercial character of the area. The character of the area would be improved by concentrating amenities near the Escondido Avenue Sprinter station, which would promote walkability. This would also establish this area of the SPA as a retail destination and encourage the use of the Sprinter station as an entrance to the SPA due to its proximity to these amenities. Additionally, the visual quality of PA-4 would be enhanced by implementation of the new landscaping, architectural design, and pedestrian access guidelines. Additionally, a key guiding principle for this planning area is to foster stronger functional and visual connections between the Santa Fe corridor through enhanced pedestrian and bicycle utilization and vehicular accessibility.

#### KVPs

KVPs #7, #8, and #9 show the existing commercial and residential development in PA-4. KVP #7 is a view of the SPA from the Sprinter Station at Escondido Avenue. KVP #8 is a view of PA-4 from the intersection of S. Santa Fe Avenue and Escondido Avenue looking southeast. KVP #9 is a view of PA-4 from the intersection of S. Santa Fe Avenue and Escondido Avenue looking northwest. As discussed above, the DVSP Update would accommodate commercial and residential development in PA-4 which would be compatible with the character of existing land uses. The visual quality of views of PA-4 from



the entry to the SPA at the Sprinter Station along Escondido Avenue (KVP #7) would be enhanced through coordinated landscaping and building design. Views of the SPA from the intersection of Escondido Avenue and S. Santa Fe Avenue (KVPs #8 and #9) within PA-4 would also be enhanced through the proposed landscaping, architectural design, and pedestrian access guidelines. Therefore, the DVSP Update would maintain and enhance the commercial and residential character of this KVP.

### ***Design and Development Guidelines***

The area-wide design and development guidelines for the entire SPA identified above under PA-1 would also apply to land uses in PA-4. The implementation of these guidelines would improve the visual quality of PA-4.

The DVSP Update would enhance the visual quality of PA-4 through the following planning area-specific design and development guidelines:

- Section 4.4.2, Development Standards
  - Open Space Requirements
    - Residential uses: 200 SF/unit
    - Non residential uses: 10 percent of lot area
  - Landscaping Requirements. 10 percent of lot area
- Section 4.4.3, Character Defining Elements and Guidelines
  - New development throughout the district should have a cohesive architectural theme or style to define the district.
  - Public spaces such as courtyards and plazas of varying sizes should be provided to accommodate a variety of pedestrian activities.
  - Integration of residential and commercial uses should be sensitive to the need for separation of uses while promoting pedestrian connections between the types of uses.
  - Development along Escondido Avenue should frame the entry into the specific plan area.
  - Established and enhanced bicycle and pedestrian connectivity to the Escondido Avenue Sprinter Station.
- Section 4.4.4, Landscape Design Plan
  - Landscape must be inviting and attractive, to break up hardscape appearances and enhance appearances within this “18-hour” activity node. Some taller screening trees will be used to reduce the mass of larger buildings. Dates palms shall be used to highlight entry or focal point areas.

The character and visual quality of public views of PA-4 would be enhanced through implementation of improved design and development guidelines proposed in the DVSP Update. Therefore, the DVSP Update would not degrade the existing visual character or quality of this planning area.

### **SIGNIFICANCE OF IMPACT**

Implementation of the DVSP Update would not have a substantial adverse effect on the visual character or quality of the SPA. Impacts would be below a level of significance.

## MITIGATION MEASURES

Implementation of the DVSP Update would not result in a significant impact to the visual character or quality of the SPA. Therefore, no mitigation is required.

### 4.1.5.3 Issue 3 – Light or Glare

*Would implementation of the DVSP Update create a new source of substantial light or glare which would adversely affect day or nighttime views in the area?*

## IMPACT ANALYSIS

The SPA is currently developed with commercial, retail, residential, and municipal uses that incorporate nighttime lighting for security, decoration, or nighttime operation. Street lights are found on most streets in the SPA. Implementation of the DVSP Update would increase development density in the DVSP area, which would result in an increase in nighttime lighting for security, decoration, or nighttime uses such as restaurants and other entertainment uses. However, the SPA does not currently provide scenic nighttime views due to the amount of nighttime lighting that already occurs in the area. Additionally, the areas surrounding the DVSP area are developed and are themselves a significant source of nighttime lighting. The DVSP Update also includes the following area-wide lighting policies that would minimize the amount of new nighttime lighting that would occur as a result of DVSP Update implementation:

- Section 3.5.2, General Operating Standards
  - Light and Glare. Lights, spotlights, floodlights, reflectors, and other means of illumination shall be shielded or equipped with special lenses in such a manner as to prevent any glare or direct illumination on any public street or other property.
- Section 3.8.1, Area-wide Guidelines
  - Lighting fixtures with exposed bulbs should not be used.
- Section 3.8.6, General Sign Design Guidelines
  - Whenever indirect lighting fixtures are used, care should be taken to properly shield the light source.
- Section 3.5.3-a, Parking Structures and Garages
  - Light sources shall be shielded so that the source of illumination is not seen from outside the structure.
- Section 3.5.3-c, Mixed-use Development
  - Parking lot lighting and security lighting for the commercial uses shall be appropriately shielded so as not to spill over into residential areas. Residential units shall also be shielded from illuminated commercial signs.

Implementation of the above standards and guidelines, as well as compliance with Section 18.58.280 of the City Municipal Code, would reduce adverse effects of lighting, to the extent feasible. In addition, the DVSP Update would not create substantial new sources of lighting compared to existing conditions. Therefore, proposed project impacts associated with increased night lighting would be less than significant.

The DVSP Update would also have the potential to result in new development that would include large expanses of reflective material, such as glass, that would result in a substantial new source of glare.

Commercial, retail, and restaurant uses typically incorporate glass into the building to showcase products or to provide a view for customers. However, the DVSP area is currently developed with similar land uses that include glass and other reflective materials. Additionally, the area-wide guidelines state that the selection of building materials and materials locations should minimize reflective surfaces or glare. Clear, non-reflective glazing on store and business windows is encouraged, as well as shielding to prevent glare (refer to Section, 3.8.3-J, Storefront Retail Building Design Guidelines). These guidelines would ensure that new development in the SPA would not result in significant impacts associated with substantial new sources of glare.

### **SIGNIFICANCE OF IMPACT**

Implementation of the DVSP Update would not result in a substantial new source of light or glare which would adversely affect day or nighttime views of the area. Impacts would be less than significant.

### **MITIGATION MEASURES**

Implementation of the DVSP Update would not result in a significant impact associated with light or glare. Therefore, no mitigation is required.

## **4.1.6 CUMULATIVE IMPACTS**

For scenic vistas or resources, and daytime glare, there is no cumulative study area because impacts are specific to the SPA.

### **4.1.6.1 Visual Character or Quality**

For visual character, the cumulative impact study area includes areas adjacent to SPA. This would include the Cypress Drive Subdivision, S. Santa Fe Commercial Center, Escondido Avenue Commercial Center, Common Grounds Café, Vista Village Drive Mixed Use, and Sonic Burger projects from Table 4.0-2. The SPA is currently developed primarily with residential and commercial land uses. Implementation of the cumulative projects would have the potential to alter the visual character and quality of the area surrounding the SPA as a result of the construction of buildings, roadways, and landscaping; however, the cumulative projects would be visually compatible with existing land uses, as well as the proposed land uses allowed under the DVSP Update. Similar to implementation of the DVSP Update, it is likely that the cumulative projects would enhance visual quality in the SPA and surrounding area by incorporating coordinated architectural design and landscaping elements. Additionally, it is assumed that development of the cumulative projects would be designed to mitigate any adverse aesthetic impacts to the viewshed, as required by CEQA, and would comply with City-wide Objective #2 of the General Plan requires development to provide visual buffering, including landscaping, between residential development and industrial/commercial uses, as well as General Plan design standards. Therefore, a significant cumulative impact to visual character or quality would not occur.

### **4.1.6.2 Nighttime Lighting**

For regional light pollution, the cumulative impact study area includes urban areas in northern San Diego County (e.g., San Marcos, Escondido, Vista, Carlsbad, Oceanside, Fallbrook, and Bonsall) that may contribute to "light dome" effects that disrupt "dark-sky" observations. The cumulative projects in Table 4.0-2 would have the potential to result in new sources of light from nighttime security and decorative lighting, similar to development under the DVSP Update. However, similar to the proposed project, these projects would be located outside of light pollution Zone A for the Palomar Mountain or Mount Laguna

Observatories in already urbanized areas that currently contain substantial sources of night lighting. The cumulative projects listed in Table 4.0-2 would be required to comply with the applicable night lighting guidelines of the respective jurisdiction, similar to Section 18.58.280 of the City's Municipal Code, and would not result in a substantial new source of nighttime lighting. Therefore, a significant cumulative impact would not occur.

#### 4.1.7 REFERENCES

City of Vista. 1988. *City of Vista General Plan, Community Identity and Scenic Roadways Element*.

\_\_\_\_\_. 1999. *Downtown Vista: Specific Plan No. 26*. Adopted February 23.

County of San Diego, Department of Planning and Land Use. 2007. *Guidelines for Determining Significance and Report Format and Content Requirements – Dark Skies and Glare*. July 30.



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## 4.2 AIR QUALITY

This section of the PEIR is based on the *Air Quality Technical Report for the Downtown Vista Specific Plan Update* prepared by PBS&J in November 2009. The report, included as Appendix B of this PEIR, addresses air pollutant emissions as a result of projected construction and operation of projects implemented under the DVSP Update.

### 4.2.1 EXISTING CONDITIONS

#### 4.2.1.1 Climate and Meteorology

Regional climate and local meteorological conditions influence ambient air quality. The plan area is located in the San Diego Air Basin (SDAB). The climate of the SDAB is dominated by a semi-permanent high pressure cell located over the Pacific Ocean. This cell influences the direction of prevailing winds (westerly to northwesterly) and maintains clear skies for much of the year. In San Diego, the normal daily maximum temperature is 78 degrees Fahrenheit (°F) in August, and the normal daily minimum temperature is 49° F in December, according to the "Climate Data Summary" provided by the Western Regional Climate Center (WRCC 1998). The normal precipitation in San Diego is about 10 inches annually, occurring primarily from November through March.

The high pressure cell also creates two types of temperature inversions that may act to degrade local air quality. Subsidence inversions occur during the warmer months as descending air associated with the Pacific high pressure cell comes into contact with cool marine air. The boundary between the two layers of air creates a temperature inversion that traps pollutants. The other type of inversion, a radiation inversion, develops on winter nights when air near the ground cools through radiation and the air aloft remain warm. The shallow inversion layer formed between these two air masses also can trap pollutants.

#### 4.2.1.2 AIR POLLUTANTS

Historically, air quality laws and regulations have divided air pollutants into two broad categories: "criteria air pollutants" and "toxic air contaminants." Criteria air pollutants are a group of common air pollutants regulated by the federal and state governments by means of ambient standards based on criteria regarding health and/or environmental effects of pollution (U.S. Environmental Protection Agency [EPA] 1998). Toxic air contaminants (air toxics or toxic air pollutants) are often referred to as "non-criteria" air pollutants because ambient air quality standards have not been established for them. Under certain conditions, toxic air contaminants may cause adverse health effects, including cancer and/or acute and chronic noncancerous effects.

##### Criteria Air Pollutants

The criteria air pollutants pertinent to the analyses in this report are carbon monoxide (CO), nitrogen oxides (NO<sub>x</sub>), O<sub>3</sub>, particulate matter, and sulfur dioxide. The following describes the health effects for each criteria air pollutant based on information published by the EPA (EPA 2009) and the CARB (CARB 2008).

##### *Carbon monoxide (CO)*

A colorless, odorless, poisonous gas, produced by incomplete burning of carbon-based fuels, including gasoline, oil, and wood. CO is also produced from incomplete combustion of many natural and synthetic products. For instance, cigarette smoke contains CO. When CO gets into the body, it combines with

chemicals in the blood and prevents the blood from providing oxygen to cells, tissues, and organs. Because the body requires oxygen for energy, high-level exposures to CO can cause serious health effects.

#### ***Nitrogen oxides (NO<sub>x</sub>)***

A general term pertaining to compounds, including nitric oxide (NO), nitrogen dioxide (NO<sub>2</sub>), and other NO<sub>x</sub>. NO<sub>x</sub> are produced from burning fuels, including gasoline, diesel, and coal. NO<sub>x</sub> are smog formers, which react with volatile organic compounds (VOCs) to form smog. NO<sub>x</sub> are also major components of acid rain.

#### ***Ozone (O<sub>3</sub>)***

O<sub>3</sub> is a corrosive gas composed of three oxygen atoms linked together. O<sub>3</sub> exists in two layers of the atmosphere. It occurs naturally in the stratosphere (upper atmosphere) where it absorbs and provides a protective shield against the sun's damaging ultraviolet radiation. O<sub>3</sub> also exists in the troposphere (lower atmosphere), and even near ground level, where it can cause health effects in humans including respiratory and eye irritation and decreases in lung function and capacity. O<sub>3</sub> is not emitted directly in the air, but at ground level is formed by chemical reactions of "precursor" pollutants – NO<sub>x</sub> and VOCs – in the presence of sunlight. O<sub>3</sub> levels are higher during the spring and summer months.

#### ***Particulate matter (PM<sub>10</sub> and PM<sub>2.5</sub>)***

Particulate matter includes dust, soot, and other tiny bits of solid materials that are released into and move around in the air. Particulates are produced by many sources, including burning of diesel fuels by trucks and buses, incineration of garbage, mixing and application of fertilizers and pesticides, road construction, industrial processes such as steel making, mining operations, agricultural burning (field and slash burning), and operation of fireplaces and woodstoves. Particulate pollution can cause eye, nose, and throat irritation and other health problems. Particulate matter is measured in microns, which are one millionth of a meter in length (or one-thousandth of a millimeter). PM<sub>10</sub> is small (respirable) particulate matter measuring 10 microns in diameter; while PM<sub>2.5</sub> is fine particulate matter no more than 2.5 microns in diameter.

#### ***Sulfur dioxide (SO<sub>2</sub>)***

SO<sub>2</sub> is a pungent, colorless gases formed primarily by the combustion of sulfur-containing fossil fuels, especially coal and oil. Some industrial processes, such as production of paper and smelting of metals, produce sulfur dioxide. Sulfur dioxide emissions have not been a problem in the SDAB because of the low sulfur fuels used in the region (SDAPCD 2007).

### **4.2.1.2 Existing Air Quality**

The closest air quality monitoring station to the SPA is the Camp Pendleton station, approximately 10 miles northwest of the SPA. This station monitors ambient O<sub>3</sub> and NO<sub>2</sub> concentrations. The next closest air quality monitoring station to the plan area is the Escondido station on East Valley Parkway, approximately 12 miles southeast of the project. This station monitors ambient O<sub>3</sub>, CO, NO<sub>2</sub>, PM<sub>10</sub>, and PM<sub>2.5</sub> concentrations. Table 4.2-1 presents a summary of the highest pollutant concentrations monitored during the three most recent years (2006 through 2008) for which the SDAPCD has reported data for these stations. SO<sub>2</sub> emissions data is not presented in this section because there has never been a violation of the federal or state SO<sub>2</sub> standards in San Diego County.

Table 4.2-1. Air Quality Monitoring Data

Pollutant	Monitoring Station	2006	2007	2008
Ozone				
Maximum 1-hour concentration (ppm)	Camp Pendleton	0.086	0.083	0.104
Days above 1-hour state standard (>0.09 ppm)		0	0	1
Maximum 8-hour concentration (ppm)		0.073	0.074	0.077
Days above 8-hour state standard (>0.07 ppm)		5	4	3
Days above 8-hour federal standard (>0.075 ppm)		0	0	2
Carbon Monoxide (CO)				
Maximum 8-hour concentration (ppm)	Escondido-East Valley Parkway	3.61	3.19	2.81
Days above state or federal standard (>9.0 ppm)		0	0	0
Respirable Particulate Matter (PM <sub>10</sub> )				
Peak 24-hour concentration (µg/m <sup>3</sup> )	Escondido – East Valley Parkway	52.0	68.0	84.0
Days above state standard (>50 µg/m <sup>3</sup> )		1	2	1
Days above federal standard (>150 µg/m <sup>3</sup> )		0	0	0
Fine Particulate Matter (PM <sub>2.5</sub> )				
Peak 24-hour concentration (µg/m <sup>3</sup> )	Escondido – East Valley Parkway	40.6	126.2	44.0
Days above federal standard (>35 µg/m <sup>3</sup> )		1	11	0
Nitrogen Dioxide (NO <sub>2</sub> )				
Peak 1-hour concentration (ppm)	Camp Pendleton	0.081	0.068	0.089
Days above state 1-hour standard (0.18 ppm)		0	0	0

Note: The federal 1-hour ozone standard was revoked in 2005.

PPM = parts per million, µg/m<sup>3</sup> = micrograms per cubic meter

Source: CARB, www.arb.gov, 2009.

As shown in Table 4.2-1, the one-hour O<sub>3</sub> concentration exceeded the state standard once during 2008, and no violations occurred during 2006 or 2007. The 8-hour O<sub>3</sub> concentration exceeded both the state and federal standard year during 2008, and the state standard in 2006 and 2007. The daily PM<sub>10</sub> concentration exceeded the state standard once in 2006 and twice in 2007, then decreased to one day again in 2008. The federal standard was not exceeded during this period. The federal 24-hour PM<sub>2.5</sub> standard was violated during once in 2006 and 11 days during 2007, but was not exceeded during 2008. The sharp increase in 2007 was due to the wildfires that occurred in the region in October of that year (SDAPCD 2007). Neither the state nor federal standard for CO or NO<sub>2</sub> was exceeded at any time during 2006-2008. In fact, the federal annual average NO<sub>2</sub> standard has not been exceeded since 1978; the state one-hour standard has not been exceeded since 1988. With one exception during the firestorms of October 2003, the SDAB has not violated the state or federal standards for CO since 1990.

## 4.2.2 REGULATORY FRAMEWORK

### 4.2.2.1 Federal

The CAA of 1970 required the EPA to establish NAAQS with states retaining the option to adopt more stringent standards or to include other specific pollutants. Current NAAQS are listed in Table 4.2-2. The EPA has classified air basins (or portions thereof) as being in “attainment,” “nonattainment,” or “unclassified” for each criteria air pollutant, based on whether or not the NAAQS have been achieved.



Table 4.2-2. Ambient Air Quality Standards

Pollutant	Averaging Time	California Standards <sup>(1)</sup>	Federal Standards <sup>(2)</sup>	
		Concentration	Primary <sup>(3,4)</sup>	Secondary <sup>(3,5)</sup>
Ozone (O <sub>3</sub> )	1 Hour	0.09 ppm (180 µg/m <sup>3</sup> )	--	Same as Primary Standards
	8 Hour	0.070 ppm (137 µg/m <sup>3</sup> )	0.075 ppm (147 µg/m <sup>3</sup> )	
Respirable Particulate Matter (PM <sub>10</sub> )	24 Hour	50 µg/m <sup>3</sup>	150 µg/m <sup>3</sup>	Same as Primary Standards
	Annual Arithmetic Mean	20 µg/m	--	
Fine Particulate Matter (PM <sub>2.5</sub> )	24 Hour	No Separate State Standard	35 µg/m	Same as Primary Standards
	Annual Arithmetic Mean	12 µg/m	15 µg/m	
Carbon Monoxide (CO)	8 Hour	9 ppm (10 mg/m <sup>3</sup> )	9 ppm (10 mg/m <sup>3</sup> )	None
	1 Hour	20 ppm (23 mg/m <sup>3</sup> )	35 ppm (40 mg/m <sup>3</sup> )	
Nitrogen Dioxide (NO <sub>2</sub> )	Annual Arithmetic Mean	0.030 ppm (57 µg/m <sup>3</sup> )	0.053 ppm (100 µg/m <sup>3</sup> )	Same as Primary Standard
	1 Hour	0.18 ppm (470 mg/m <sup>3</sup> )	--	
Sulfur Dioxide (SO <sub>2</sub> )	Annual Arithmetic Mean	--	0.030 ppm (80 µg/m <sup>3</sup> )	--
	24 Hour	0.04 ppm (105 µg/m <sup>3</sup> )	0.14 ppm (365 µg/m <sup>3</sup> )	--
	3 Hour	--	--	0.5 ppm (1300 µg/m <sup>3</sup> )
	1 Hour	0.25 ppm (655 µg/m <sup>3</sup> )	--	--
Lead <sup>6</sup>	30 Day Average	1.5 µg/m <sup>3</sup>	--	--
	Calendar Quarter	--	1.5 µg/m <sup>3</sup>	Same as Primary Standard
	Rolling 3-Month Average <sup>7</sup>	--	0.15 µg/m <sup>3</sup>	
Visibility Reducing Particles	8 Hour	Extinction coefficient of 0.23 per kilometer - visibility of 10 miles or more due to particles.	No Federal Standards	
Sulfates	24 Hour	25 µg/m <sup>3</sup>	No Federal Standards	
Hydrogen Sulfide	1 Hour	0.03 ppm (42 µg/m <sup>3</sup> )	No Federal Standards	
Vinyl Chloride <sup>6</sup>	24 Hour	0.01 ppm (26 µg/m <sup>3</sup> )	No Federal Standards	

<sup>(1)</sup> California standards for O<sub>3</sub>, CO, SO<sub>2</sub> (1-hour and 24-hour), NO<sub>2</sub>, PM<sub>10</sub>, and visibility reducing particles are values that are not to be exceeded. The standards for sulfates, lead, hydrogen sulfide, and vinyl chloride standards are not to be equaled or exceeded.

<sup>(2)</sup> National standards, other than 1-hour O<sub>3</sub>, 8-hour O<sub>3</sub>, 24-hour PM<sub>10</sub>, 24-hour PM<sub>2.5</sub>, and those based on annual averages, are not to be exceeded more than once a year. The one-hour O<sub>3</sub> standard is attained when the expected number of days per calendar year with maximum hourly average concentrations above the standard is equal to or less than one. The 8-hour O<sub>3</sub> standard is attained when the 3-year average of the annual fourth-highest daily maximum 8-hour concentrations is below 0.08 ppm. The 24-hour PM<sub>10</sub> standard is attained when the 3-year average of the 99<sup>th</sup> percentile 24-hour concentrations is below 150 µg/m<sup>3</sup>. The 24-hour PM<sub>2.5</sub> standard is attained when the 3-year average of the 98<sup>th</sup> percentile 24-hour concentrations is below 65 µg/m<sup>3</sup>.

<sup>(3)</sup> Concentration expressed first in units in which it was promulgated. Equivalent units given in parenthesis are based on a reference temperature of 25°C and a reference pressure of 760 mm of mercury (1,013.2 millibar). All measurements of air quality are to be corrected to a reference temperature of 25°C and a reference pressure of 760 mm of mercury; parts per million (ppm) in this table refers to ppm by volume, or micromoles of pollutant per mole of gas.

<sup>(4)</sup> National Primary Standards: The levels of air quality necessary, with an adequate margin of safety to protect the public health.

<sup>(5)</sup> National Secondary Standards: The levels of air quality necessary to protect the public welfare from any known or anticipated adverse effects of a pollutant.

<sup>(6)</sup> The CARB had identified lead and vinyl chloride as "toxic air contaminants" with no threshold level of exposure for adverse health effects determined. These actions allow for the implementation of control measures at levels below the ambient concentrations specified for these pollutants.

<sup>(7)</sup> National lead standard, rolling 3-month average: final rule signed October 15, 2008.

Source: California Air Resources Board, January 2009.

If an area is designated unclassified, it is because inadequate air quality data were available as a basis for a nonattainment or attainment designation. The EPA classifies the SDAB as in attainment for CO, NO<sub>2</sub>, Pb, PM<sub>2.5</sub>, and SO<sub>2</sub>. It is unclassifiable for PM<sub>10</sub> with respect to federal air quality standards. Table 4.2-3 lists the attainment status of San Diego County for the criteria pollutants.

**Table 4.2-3. San Diego County Attainment Status**

Pollutant	Averaging Time	California Standards	Federal Standards
Ozone (O <sub>3</sub> )	1 Hour	Nonattainment	No Federal Standard
	8 Hour		Nonattainment
Respirable Particulate Matter (PM <sub>10</sub> )	Annual Arithmetic Mean	Nonattainment	No Federal Standard
	24 Hour		Unclassified <sup>(1)</sup>
Fine Particulate Matter (PM <sub>2.5</sub> )	Annual Arithmetic Mean	Nonattainment	Attainment
	24 Hour	No State Standard	
Carbon Monoxide (CO)	8 Hour	Attainment	Maintenance Area <sup>(2)</sup>
	1 Hour		
Nitrogen Dioxide (NO <sub>2</sub> )	Annual Arithmetic Mean	No State Standard	Attainment
	1 Hour	Attainment	No Federal Standard
Lead	Calendar Quarter	No State Standard	Attainment
	30 Day Average	Attainment	No Federal Standard
	Rolling 3-Month Average	No State Standard	Attainment
Sulfur Dioxide (SO <sub>2</sub> )	Annual Arithmetic Mean	No State Standard	Attainment
	24 Hour	Attainment	Attainment
	1 Hour	Attainment	No Federal Standard
Sulfates	24 Hour	Attainment	No Federal Standard
Hydrogen Sulfide	1 Hour	Unclassified	No Federal Standard
Visibility Reducing Particulates	8 Hour (10:00a.m. to 6:00 p.m., PST)	Unclassified	No Federal Standard

<sup>(1)</sup> Unclassified; indicates data are not sufficient for determining attainment or nonattainment.

<sup>(2)</sup> Maintenance Area (defined by U.S. Department of Transportation) is any geographic region of the United States previously designated nonattainment pursuant to the CAA Amendments of 1990 and subsequently re-designated to attainment subject to the requirement to develop a maintenance plan under section 175A of the CAA, as amended.

Source: SDAPCD, Fact Sheet. Data reflects status as of July, 2008.

Although San Diego County had achieved attainment for the federal one-hour O<sub>3</sub> standard in 2003, in 2005 the EPA revoked the federal one-hour O<sub>3</sub> standard. San Diego County was designated a nonattainment area for the eight-hour O<sub>3</sub> NAAQS, effective June 15, 2004, based on O<sub>3</sub> air quality measurements over the 2001-2003 three-year period. At that time, the region's nonattainment status was further categorized by EPA as "Basic," a category of eight-hour O<sub>3</sub> nonattainment areas whose one-hour O<sub>3</sub> design values met the former federal one-hour O<sub>3</sub> NAAQS.

The CAA (and its subsequent amendments) requires each State to prepare an air quality control plan referred to as the SIP. The CAA Amendments dictate that states containing areas violating the NAAQS revise their SIPs to include extra control measures to reduce air pollution. The SIP includes strategies and control measures to attain the NAAQS by deadlines established by the CAA. The SIP is periodically modified to reflect the latest emissions inventories, plans, and rules and regulations of air basins as reported by the agencies with jurisdiction over them. The EPA has the responsibility to review all SIPs to determine if they conform to the requirements of the CAA.

### 4.2.2.2 State

The CARB, a part of the California Environmental Protection Agency (Cal EPA), is responsible for the coordination and administration of both federal and state air pollution control programs within California.

The CAA allows states to adopt ambient air quality standards and other regulations provided that they are at least as stringent as federal standards. California has adopted ambient standards (the California Ambient Air Quality Standards or CAAQS) that are stricter than the federal standards for six criteria air pollutants. Under the CCAA, patterned after the federal CAA, areas have been designated as attainment, nonattainment or unclassified with respect to the state ambient air quality standards. The CCAA requires that districts design a plan to achieve an annual reduction in district-wide emissions of five percent or more for each nonattainment criteria pollutant or its precursor(s) until attainment of the standard is achieved. These plans include the following: emission control standards that require local districts to stringently control emissions through varying degrees of stationary and mobile source control programs; application of additional control measures if a regional air quality management district or unified APCD contributes to downwind nonattainment areas; cost-effectiveness estimates for all proposed emission control measures; and development and implementation of transportation controls for cities and counties to enforce.

The CARB is the state regulatory agency with the authority to enforce regulations to both achieve and maintain the NAAQS and CAAQS. The CARB is responsible for the development, adoption, and enforcement of the state's motor vehicle emissions programs, as well as the adoption of the CAAQS. The CARB also reviews operations and programs of the local air districts, and requires each air district with jurisdiction over a nonattainment area to develop its own strategy for achieving the NAAQS and CAAQS.

San Diego County is in nonattainment for the CAAQS for O<sub>3</sub>, PM<sub>10</sub>, and PM<sub>2.5</sub>. The County is designated as an attainment area for the state CO, NO, SO<sub>2</sub>, Pb, and sulfates standards. Hydrogen sulfide and visibility-reducing particles are unclassified in San Diego County.

In 2003, the California State Legislature enacted Senate Bill (SB) 656 requiring additional controls to reduce ambient concentrations of PM<sub>10</sub> and PM<sub>2.5</sub>. Pursuant to SB 656, in November 2004 the CARB adopted lists of the most readily available, feasible, and cost-effective statewide and local measures to reduce particulate matter. Statewide measures generally fall under the jurisdiction of the CARB, and regional districts implement local measures.

### 4.2.2.3 Regional

The SDAPCD has jurisdiction over air quality programs in San Diego County. State and local government projects, as well as projects proposed by the private sector, are subject to SDAPCD requirements if the sources are regulated by the SDAPCD. Additionally, the SDAPCD, along with the CARB, maintains and operates ambient air quality monitoring stations at numerous locations throughout San Diego County. These stations are used to measure and monitor criteria and toxic air pollutant levels in the ambient air.

Under the requirements of the CCAA, each local air district is required to develop its own strategies to achieve both state and federal air quality standards for its air basin. The SDAPCD developed *The San Diego Air Basin 2009 Regional Air Quality Strategy Revision*. The RAQS was developed pursuant to CCAA requirements and identifies feasible emission control measures to provide progress in San Diego County toward attaining the State O<sub>3</sub> standard. The pollutants addressed are VOCs and NO<sub>x</sub>, precursors to the photochemical formation of O<sub>3</sub> (the primary component of smog). The RAQS control measures

focus on emission sources under the SDAPCD's authority, specifically stationary emission sources (such as power plants, manufacturing and industrial facilities) and some area-wide sources (such as water heaters, architectural coatings, and consumer products). However, the emission inventories and emission projections in the RAQS reflect the impact of all emission sources and all control measures, including those under the jurisdiction of the CARB (on-road and off-road motor vehicles) and the EPA (aircraft, ships, and trains). Thus, while legal authority to control various pollution sources is divided among agencies, the District is responsible for reflecting federal, state, and local measures in a single plan to achieve state O<sub>3</sub> standards in San Diego County. The RAQS was initially adopted by the SPAPCD in 1992 and has been updated on a triennial basis, in accordance with State requirements. The latest version of the RAQS was adopted by the SDAPCD in 2009.

Additionally, as mentioned previously, because San Diego County is currently designated a nonattainment area for the eight-hour O<sub>3</sub> NAAQS, the SDAPCD must submit to EPA, through the CARB, an implementation plan as part of the California SIP identifying control measures and associated emission reductions as necessary to demonstrate attainment of the federal eight hour O<sub>3</sub> standard within San Diego County. The SIP is updated on a triennial basis. The CARB adopted its 2007 State Strategy for California's 2007 SIP on September 27, 2007. As part of the State Strategy, the SDAPCD developed its *Eight-Hour Ozone Attainment Plan for San Diego County*, which provides plans for attaining and maintaining the 8-hour NAAQS for O<sub>3</sub> (SDAPCD 2007).

Neither the RAQS nor the SIP addresses emissions of particulate matter. In response to SB 656, the SDAPCD prepared the report, *Measures to Reduce Particulate Matter in San Diego County*, in December 2005. This report includes local measures to control particulates in the SDAB.

### 4.2.3 IMPACT SIGNIFICANCE CRITERIA

Implementation of the DVSP Update would result in a significant direct impact on air quality if the DVSP Update would:

1. Conflict with or obstruct the implementation of the San Diego RAQS or applicable portions of the SIP;
2. Result in emissions that would violate any air quality standard or contribute substantially to an existing or projected air quality violation;
3. Result in a cumulatively considerable net increase of PM<sub>10</sub> or exceed quantitative thresholds for O<sub>3</sub> precursors, NO<sub>x</sub> and VOCs;
4. Expose sensitive receptors (including, but not limited to, schools, hospitals, resident care facilities, or day-care centers) to substantial pollutant concentrations; or
5. Create objectionable odors affecting a substantial number of people.

To determine whether a project would: (a) result in emissions that would violate any air quality standard or contribute substantially to an existing or projected air quality violation; or (b) result in a cumulatively considerable net increase of PM<sub>10</sub> or exceed quantitative thresholds for O<sub>3</sub> precursors, NO<sub>x</sub> and VOCs, project emissions may be evaluated based on the quantitative emission thresholds established by the SDAPCD. The SDAPCD does not provide quantitative thresholds for determining the significance of construction or mobile source-related projects. However, the District does specify Air Quality Impact Analysis (AQIA) trigger levels for new or modified stationary sources (SDAPCD Rules 20.2 and 20.3). If these incremental levels are exceeded, an AQIA must be performed. For CEQA purposes, the screening level thresholds can be used to demonstrate that a project's total emissions would not result in a



significant impact to air quality. Because the AQIA screening thresholds do not include VOCs; the screening level for VOCs used in this analysis are from the South Coast Air Quality Management District (SCAQMD), which generally has stricter emissions thresholds than SDAPCD. For PM<sub>2.5</sub>, the EPA “Proposed Rule to Implement the Fine Particle National Ambient Air Quality Standards” published in 2005, which quantifies significant emissions as 10 tons per year, is used as the screening level threshold. The trigger thresholds listed in Table 4.2-4 are used in this analysis to determine whether implementation of the DVSP has the potential to violate an air quality standard or contribute substantially to an existing or projected air quality violation.

**Table 4.2-4. SDAPCD Pollutant Thresholds**

Pollutant	Pounds Per Hour	Pounds Per Day	Tons Per Year
Carbon monoxide (CO)	100	550	100
Nitrogen Oxides (NO <sub>x</sub> )	25	250	40
Respirable Particulate Matter (PM <sub>10</sub> )	--	100	15
Fine Particulate Matter (PM <sub>2.5</sub> )	--	55 <sup>(1)</sup>	10 <sup>(1)</sup>
Oxides of Sulfur (SO <sub>x</sub> )	25	250	40
Lead (Pb)	--	3.2	0.6
Volatile Organic Compounds (VOC)	--	75 <sup>(2)</sup>	13.7 <sup>(2)</sup>

<sup>(1)</sup> EPA “Proposed Rule to Implement the Fine Particle National Ambient Air Quality Standards” published September 2005.

<sup>(2)</sup> Based on VOC threshold from SCAQMD.

Source: SDAPCD Rule 20.2 (d)(2), Table 20.2-1.

SDAPCD Rule 51 (Public Nuisance) prohibits emission of any material which causes nuisance to a considerable number of persons or endangers the comfort, health or safety of any person. The rule states that a person shall not discharge from any source whatsoever such quantities of air contaminants or other materials which cause injury, detriment, nuisance or annoyance to any considerable number of persons or to the public; which endanger the comfort, repose, health or safety of any such persons or the public; or which cause or have a natural tendency to cause injury or damage to business or property. The provisions of the rule do not apply to odors emanating from agricultural operations in the growing of crops or raising of fowls or animals (SDAPCD 2009). A project that proposes a use which would produce objectionable odors would be deemed to have a significant odor impact if it would affect a considerable number of off-site receptors.

## 4.2.4 METHOD OF ANALYSIS

The section below gives full consideration to the development of the SPA and acknowledges the physical changes to the existing setting that would occur from implementation of the proposed project. This section of the PEIR is based on the *Air Quality Technical Report for the Downtown Vista Specific Plan Update* prepared by PBS&J in August 2009. Refer to the report, included as Appendix B of this PEIR, for detailed methodology. The DVSP Update’s consistency with the RAQS was determined by comparing the DVSP Update to growth projected for the SPA by SANDAG. Air pollutant emissions during construction were estimated using the Urban Emissions (URBEMIS) 2007 model and compared to the adopted air quality standards. The California Line Source (CALINE 4) model was used to estimate the potential CO impact. Toxic air contaminant (TAC) risk was determined based on the SCAQMD’s “Health Risk Assessment Guidance for Analyzing Cancer Risks from Mobile Source Diesel Idling

Emissions for CEQA Air Quality Analysis" (SCAQMD 2003). Odor impacts were determined based on the CARB's Air Quality and Land Use Handbook.

## 4.2.5 PROJECT IMPACTS AND MITIGATION

### 4.2.5.1 Issue 1 – Consistency with the RAQS

*Would implementation of the DVSP Update result in a conflict with or obstruct implementation of the San Diego RAQS or applicable portions of the SIP?*

#### IMPACT ANALYSIS

The California SIP is the document that sets forth the state's strategies for achieving federal air quality standards. The SDAPCD is the agency responsible for preparing and implementing the portion of the California SIP applicable to the SDAB for attainment of the NAAQS for O<sub>3</sub>. The RAQS outlines SDAPCD's plans and control measures designed to attain the State air quality standards for O<sub>3</sub>. Both documents were developed in conjunction with each other by the SDAPCD to reduce regional O<sub>3</sub> emissions.

The SDAPCD relies on information from CARB and SANDAG, including projected growth in the county, mobile, area and all other source emissions in order to project future emissions and develop appropriate strategies for the reduction of source emissions through regulatory controls. The CARB mobile source emission projections and SANDAG growth projections are based on population and vehicle trends and land use plans developed by the cities and by the County. As such, projects that propose development that is consistent with the growth anticipated by SANDAG would be consistent with the RAQS and the SIP.

The basis for these plans is the distribution of population in the region as projected by SANDAG. The current RAQS is based, in part, on the projections included in the existing General Plan and SP #26, which projected the development of 1,472 dwelling units in an area approximately 261 acres in extent by the year 2030. The proposed DVSP Update would expand the current SPA to 352 acres (275 net acres without the inclusion of right-of-way) to accommodate up to 1,675 dwelling units, which is an increase of 203 dwelling units and 56 gross acres over the existing plan. Although the proposed DVSP Update would increase the build-out capacity within the Downtown Vista planning area, the overall increase in housing units and corresponding population represents an incremental difference compared to the existing projections for the City. As shown in Table 4.2-5, under the existing Specific Plan #26, build-out of the plan in the year 2030 would account for approximately 4.2 percent of total dwelling units and 4.3 percent of the total population projected in the City. Under build-out of the proposed DVSP Update, development in the SPA would account for approximately 4.8 percent of the total dwellings units and 4.8 percent of the total projected population. Build-out of the DVSP Update represents a difference of less than one percent compared to projected growth as a result of build-out of SP #26, which is included in the existing SANDAG projections for the City. Therefore, although the DVSP Update would incrementally increase the housing capacity in the downtown area, the overall growth for the region remains consistent with SANDAG's citywide projections. In addition, although the proposed DVSP Update proposes a greater number of dwelling units, the extent of the proposed DVSP area is approximately 57 acres (gross) larger than the current SPA. If the planning areas are compared over an equivalent acreage of land, the number of units included in the DVSP Update may actually be smaller in comparison to the existing and/or proposed build-out number of residential units.

**Table 4.2-5. Growth Projections for the SPA**

	City of Vista (SANDAG)	Existing Downtown SP #26		Proposed DVSP Update		Percent Difference between Existing and Proposed Plans
		SPA Total	Percent of Citywide Total	SPA Total	Percent of Citywide Total	
Projected Housing Units (2030)	34,947 units	1,472	4.2%	1,675	4.8%	+ 0.6%
Projected Population (2030)	115,768	4,813*	4.3%	5,528 <sup>(1)</sup>	4.8%	+0.5%

SPA = Specific Plan Area.

<sup>(1)</sup> Based on a persons per household ratio of 3.3, as projected by SANDAG for the year 2030

Source: City of Vista, 1999; SANDAG, 2008

Additionally, the DVSP Update accommodates compact, mixed-use development that would place residents in close proximity to commercial, municipal, and recreational land uses and would reduce vehicle trips, which would result in fewer vehicular emissions compared to more traditional single-family residential developments. The SPA also includes the Vista Transit Center, with Sprinter light rail and Breeze bus service, and a second Sprinter station on Escondido Avenue. The DVSP Update encourages future development to be highly walkable and transit-oriented, which would further reduce vehicle trips compared to typical commercial and residential development. Therefore, implementation of the DVSP Update would be consistent with the SANDAG growth projections and would not conflict with RAQS or the SIP.

### SIGNIFICANCE OF IMPACT

Implementation of the DVSP Update would be consistent with the SANDAG growth projections and would not conflict with RAQS or the SIP. Impacts would be less than significant.

### MITIGATION MEASURES

Implementation of the DVSP Update would not result in a significant impact associated with a conflict with the RAQS or the SIP. Therefore, no mitigation is required.

#### 4.2.5.2 Issues 2 and 3 – Consistency with Air Quality Standards

*Would implementation of the DVSP Update result in emissions that would violate any air quality standard or contribute substantially to an existing or projected air quality violation?*

*Would implementation of the DVSP Update result in a cumulatively considerable net increase of PM<sub>10</sub> or exceed quantitative thresholds for O<sub>3</sub> precursors, NO<sub>x</sub> and VOCs?*

### IMPACT ANALYSIS

Implementation of the DVSP would result in both construction and operational air pollutant emissions. Construction emissions include those associated with the construction of new land uses, demolition of old buildings for redevelopment, and construction of infrastructure improvements to support new land uses. Operational emissions include those associated with traffic generated by new development in the SPA and operation of accommodated land uses, including residential, commercial, retail, office, and civic development.

### Pollutant Emissions from Construction Activities

Construction activities would result in temporary increases in air pollutant emissions. These emissions would be generated in the forms of fugitive dust emissions from earth disturbance during site grading and building demolition, and exhaust emissions from operation of heavy equipment and vehicles during construction. Paving activities would emit VOCs during off-gassing.

Daily air pollutant emissions during construction were estimated using the assumed worst-case activity data and the emission factors included in the URBEMIS 2007 model. For the purposes of modeling a worst-case construction scenario, it was assumed that development associated with the DVSP Update build-out would take place over a 20-year period, with an equal amount of construction occurring each year. At full build-out (2030), a total of 1,675 residential units and 2,624,854 SF of commercial/office development could be accommodated within the SPA. This total represents a worst-case estimate of construction, as the total capacity includes existing development that would likely remain in the SPA. Model defaults were used to estimate emissions associated with construction equipment. Construction emission estimates include the dust control measures specified in the City Grading and Erosion Ordinance (Ordinance 2002-25, Section 17.56.330(e)); which requires all graded surfaces and materials whether filled, excavated, transported, or stockpiled to be watered, protected, or contained in such a manner as to reduce or minimize nuisance from dust or spillage upon adjoining property or streets. All model inputs and outputs are provided in Appendix B. Table 4.2-6 presents a summary of estimated maximum daily air pollutant emissions for each construction phase associated with the project.

**Table 4.2-6. Construction Daily Maximum Air Pollutant Emissions**

Construction Phase	Maximum Daily Emissions (pounds/day)					
	CO	VOC	NO <sub>x</sub>	SO <sub>x</sub>	PM <sub>10</sub>	PM <sub>2.5</sub>
Demolition	32	6	86	0	85	20
Mass Grading <sup>(1)</sup>	14	3	25	0	34	8
Fine Grading <sup>(1)</sup>	14	3	25	0	34	8
Trenching	9	2	18	0	1	1
Building	29	4	20	0	1	1
Paving	12	3	17	0	1	1
Architectural Coating <sup>(2)</sup>	3	69	0	0	0	0
<b>Significance Threshold</b>	<b>550</b>	<b>75</b>	<b>250</b>	<b>250</b>	<b>100</b>	<b>55</b>
Significant Impact?	No	No	No	No	No	No

<sup>(1)</sup> Includes dust stabilization measures.

<sup>(2)</sup> Includes use of low VOC coatings.

Emission quantities are rounded to the nearest whole number. Exact values are provided in Appendix B.

Source: URBEMIS 2007, version 9.2.4. See Appendix B for model output.

The estimate of construction emissions indicates that the project would contribute amounts below the significance thresholds for all phases of construction; therefore, impacts would be less than significant.

### Pollutant Emissions from Project Operations

Project operational emissions of air pollutants would result from stationary and vehicular sources, as described below. Build-out of the DVSP Update would accommodate an additional 1,270 residential units and 1,866,737 SF of non-residential development (commercial and office uses) compared to existing development, for a total of 1,675 dwelling units and 2,624,854 SF of non-residential development. The

CARB's URBEMIS 2007 air quality model was used to estimate operational emissions associated with area and vehicular sources. Traffic volumes associated with the DVSP Update were based on the traffic study prepared for the project by RBF Consulting (2009). The net change in emissions was calculated by subtracting the emissions associated with existing development from the total emissions associated with full build-out of the DVSP Update. The net increase in estimated operational air pollutant emissions from build-out of the DVSP Update is shown in Table 4.2-7.

#### Area Sources

Area sources of air pollutant emissions associated with the DVSP Update include: fuel combustion emissions from space and water heating, fuel combustion emissions from landscape maintenance equipment, VOC emissions from periodic repainting of interior and exterior surfaces, and energy usage.

#### Vehicular Sources

Increased volumes of vehicles associated with the operation of build-out of the DVSP Update would contribute to regional emissions of NO<sub>x</sub>, VOC, CO, SO<sub>x</sub>, PM<sub>2.5</sub> and PM<sub>10</sub>. Criteria pollutant emissions were calculated using URBEMIS 2007 model based on vehicular trips included in the traffic analysis data for the DVSP Update (RBF Consultants 2009). Model inputs and outputs are detailed in Appendix B. As shown in Table 4.2-7, the vehicular sources are the largest source of pollutant emissions.

**Table 4.2-7. Operational Daily Maximum Air Pollutant Emissions – DVSP Update Build-out**

Emission Source	Maximum Daily Emissions (pounds/day)					
	VOC	NO <sub>x</sub>	CO	SO <sub>2</sub>	PM <sub>10</sub>	PM <sub>2.5</sub>
<b>Area Sources</b>						
Natural Gas	5	67	51	0	0	0
Landscape	0	0	6	0	0	0
Consumer Products	82	0	0	0	0	0
Architectural Coatings <sup>(1)</sup>	40	0	0	0	0	0
Vehicular Sources <sup>(2)</sup>	347	358	3,655	9	1,741	332
<b>Total DVSP Update Build-out</b>	<b>475</b>	<b>425</b>	<b>3,712</b>	<b>9</b>	<b>1,741</b>	<b>332</b>
<i>Existing Build-out</i>	<i>114</i>	<i>102</i>	<i>945</i>	<i>2</i>	<i>446</i>	<i>85</i>
<b>Net Increase from Baseline</b>	<b>361</b>	<b>323</b>	<b>2,767</b>	<b>7</b>	<b>1,296</b>	<b>247</b>
Significance Threshold	75	250	550	250	100	55
<b>Significant Impact?</b>	<b>Yes</b>	<b>Yes</b>	<b>Yes</b>	<b>No</b>	<b>Yes</b>	<b>Yes</b>

(1) Includes the use of low VOC coatings.

(2) Includes the incorporation of the following features: mix of uses, local serving retail, transit service, and bike/pedestrian facilities.

Emission quantities are rounded to the nearest whole number. As such, the total amounts shown may not add up exactly. Exact values are provided in Appendix B.

Source: URBEMIS 2007, version 9.2.4.

#### Total Operational Emissions

As shown in Table 4.2-7, operational emissions from full build-out of the DVSP Update would exceed the significance thresholds for maximum daily emissions for VOCs, NO<sub>x</sub>, CO, PM<sub>10</sub> and PM<sub>2.5</sub>. Therefore, implementation of the DVSP Update would violate air quality standards and would exceed quantitative thresholds for NO<sub>x</sub> and VOCs. Additionally, the SDAB is currently in non-attainment for PM<sub>10</sub>. As a result, implementation of the DVSP Update would result in a cumulatively considerable net



increase of PM<sub>10</sub>. Therefore, potential air quality impacts associated with operation of the project are significant and mitigation is required.

## SIGNIFICANCE OF IMPACT

Operational emissions from full build-out of the DVSP Update would exceed the significance thresholds for maximum daily emissions for VOCs, NO<sub>x</sub>, CO, PM<sub>10</sub> and PM<sub>2.5</sub>. Therefore, air quality impacts are significant.

## MITIGATION MEASURES

Measures for construction are based in part on the City's Grading and Erosion Ordinance (2002-25). In addition, DVSP Update General Operating Standard C, Air Pollution, requires sources of air pollution to comply with the rules established by the EPA and the CARB. The standard states that no person shall operate a regulated source of air pollution without a valid operative permit issued by the designated regulatory agency. General Operating Standard D, Exhaust Emissions, requires that construction-related and business activities minimize exhaust emissions by maintaining equipment in good operating condition and in proper tune in compliance with manufacturer's specifications.

In addition to these operating standards, implementation of mitigation measures *Air-1* through *Air-7* would minimize criteria pollutant emissions from construction and operation. Table 4.2-8 includes an estimate of the reduction in emissions with the mitigation measures listed below. This estimate is a conservative calculation as the pollutant reductions for some measures is not quantifiable in the URBEMIS model. As shown in the table, even with the incorporation of all feasible mitigation measures, operational air pollutant emissions remain in exceedence of the significance thresholds; therefore, emissions are significant and unavoidable.

**Table 4.2-8. Mitigated Operational Daily Maximum Air Pollutant Emissions – DVSP Build-out**

Emission Source	Maximum Daily Emissions (pounds/day)					
	VOC	NO <sub>x</sub>	CO	SO <sub>2</sub>	PM <sub>10</sub>	PM <sub>2.5</sub>
Total DVSP Update Build-out <sup>(1)</sup>	475	425	3,712	9	1,741	332
Mitigated DVSP Update Build-out <sup>(2)</sup>	459	395	3,532	9	1,661	317
Reduction	3%	7%	5%	0%	5%	5%
Existing Build-out	114	102	945	2	446	85
Net Increase from Baseline	345	293	2,587	7	1,215	232
Significance Threshold	75	250	550	250	100	55
Significant Impact?	Yes	Yes	Yes	No	Yes	Yes

<sup>(1)</sup> Includes the following project features: low VOC coatings, mix of uses, local serving retail, transit service, and bike/pedestrian facilities.

<sup>(2)</sup> Includes the following mitigation measures: energy efficiency beyond Title 24, parking fee for non-residential uses, 10% employee participation in telecommuting program, 10% employee participation in 9/80 work schedule, carpool/vanpool program, car-sharing services provided, preferential carpool/vanpool parking, and information on transportation alternatives.

Emission quantities are rounded to the nearest whole number. As such, the total amounts shown may not add up exactly. Exact values are provided in Appendix B.

Source: URBEMIS 2007, version 9.2.4.

**Air-1** During grading activities for any future development in the SPA, the on-site construction superintendent shall ensure implementation of standard best management practices (BMPs) to reduce the emission of fugitive dust, including but not limited to the following actions:

- Water any exposed soil areas a minimum of twice per day, or as allowed under any imposed drought restrictions. On windy days or when fugitive dust can be observed leaving the construction site, additional water will be applied at a frequency to be determined by the on-site construction superintendent.
- Graded areas on slopes will provide temporary hydroseeding and irrigation of cleared vegetation and graded slopes as soon as possible following grading activities in areas that will remain in disturbed condition (but will not be subject to further construction activities) for a period greater than three months during the construction phase.
- Pave or periodically water all on-site access points or apply chemical stabilizer to construction sites.
- Securely cover all transported material to prevent fugitive dust.
- Operate all vehicles on the construction site at speeds less than 15 miles per hour.
- Cover all stockpiles that will not be utilized within three days with plastic or equivalent material, to be determined by the on-site construction superintendent, or spray them with a non-toxic chemical stabilizer.

**Air-2** The following measures shall be implemented throughout construction to minimize emissions of O<sub>3</sub> precursors (NO<sub>x</sub> and VOCs):

- Turn off all diesel-powered vehicles and gasoline-powered equipment when not in use for more than five minutes.
- Use electric or natural gas-powered construction equipment in lieu of gasoline or diesel-powered engines, where feasible.
- Require 10 percent of construction fleet to use any combination of diesel catalytic converters, diesel oxidation catalysts, diesel particulate filters, and/or CARB-certified Tier III equipment or better.
- Support and encourage ridesharing and transit incentives for the construction crew.

**Air-3** The following measures would ensure that architectural coatings comply with SDAPCD Rule 67:

- Use pre-coated/natural colored building materials.
- Use water-based or low VOC coatings with a VOC content of 100 grams per liter or less.
- Use spray equipment with high transfer efficiency, such as the electrostatic spray gun method or apply coatings using manual tools, such as paint brushes, hand rollers, trowels, spatulas, daubers, rags, or sponges.

**Air-4** Prior to demolition or renovation of any buildings constructed prior to 1980 or otherwise having the potential to contain ACM, a survey shall be conducted by a licensed asbestos-abatement contractor to determine presence of ACM. The SDAPCD shall be notified at least 10 days prior to any activity which may dislodge ACM in accordance with SDAPCD Rule 361.145 and demolition or renovation of structures which may contain ACM must be handled and disposed of in accordance with SDAPCD Rules 361.140-361.156.

**Air-5** Prior to issuance of a building permit for any future project under the DVSP Update, the project applicant shall identify and submit building plans that identify design features to reduce

operational emissions associated with vehicular traffic. Such design features may include, but not be limited to:

- Projects within one-quarter mile of a transit facility, including Sprinter stations and bus stops, shall enhance existing or construct new pedestrian and bicycle facilities to provide safe and efficient access to the transit services.
- Projects located within one-half mile of an existing/planned Class I or Class II bike lane shall include a comparable network that connects the project uses to the existing off-site facility. Project design shall include a designated bicycle route connecting all units, on-site bicycle parking facilities, off-site bicycle facilities, site entrances, and primary building entrances to existing Class I or Class II bike lane(s) within one half mile, as feasible.
- Nonresidential projects shall provide "end-of-trip" facilities including showers, lockers, and changing space. At a minimum, project will provide four clothes lockers and one shower provided for every 80 employee parking spaces, including separate facilities for each gender for projects with 160 or more employee parking spaces.
- Bicycle racks that are accessible from the street and the pedestrian routes. At a minimum, one bike rack space shall be provided per 20 vehicle parking spaces.
- Provide a parking lot design that includes clearly marked and shaded pedestrian pathways between transit facilities and building entrances.
- Other transportation demand features for commercial uses may include parking fees employee telecommuting programs, flexible employee work schedules, carpool/vanpool programs, car-sharing services, preferential carpool/vanpool parking, and information on transportation alternatives provided to employees.

**Air-6** Prior to the issuance of building permits, the applicant shall demonstrate that the project shall exceed the requirements of Title 24 of the California Energy Efficiency Standards for Residential and Non-residential Buildings. These requirements, along with the following measures, shall be incorporated into future development projects to reduce indirect emissions from energy use in the SPA, including O<sub>3</sub> precursors:

- Use of low-NOx emission water heaters
- Installation of energy efficient and automated air conditioners where applicable
- Energy efficient parking area lights
- Exterior windows shall be double-paned

**Air-7** An AQIA shall be prepared for projects within the DVSP Update planning area for projects that exceed one of the following screening criteria:

- Single family residential: 300 dwelling units (DU)
- Apartments (6-20 DU/acre): 370 DU
- Apartments (greater than 20 DU/acre): 420 DU
- Condominiums: 370 DU
- Supermarket: 25,000 SF
- Restaurant, fast food: 6,500 SF
- Restaurant, sit down: 43,000 SF
- Hotel/Motel: 480 rooms

- Standard commercial office: 190,000 SF
- Neighborhood shopping center: 35,000 SF

For projects that include mixed uses, the AQIA trigger threshold would be determined by converting the various uses to equivalent single-family units using the conversion factors found within Table 5 of the San Diego County Report Format and Content Requirements, Air Quality (San Diego County 2007).

#### 4.2.5.3 Issue 4 – Sensitive Receptors

*Would implementation of the DVSP Update expose sensitive receptors (including, but not limited to, schools, hospitals, resident care facilities, or day-care centers) to substantial pollutant concentrations?*

##### IMPACT ANALYSIS

Air quality regulators typically define sensitive receptors as schools (preschool-12<sup>th</sup> grade), hospitals, resident care facilities, day-care centers, or other facilities that may house individuals with health conditions that would be adversely affected by changes in air quality. The two primary emissions of concern regarding health effects for land development projects are CO and diesel-fired particulates.

##### Carbon Monoxide Hot Spots

Areas with high vehicle density, such as congested intersections and parking garages, have the potential to create high concentrations of CO, known as CO hot spots. An air quality impact is considered significant if CO emissions create a hot spot where either the California one-hour standard of 20 parts per million (ppm) or the federal and State eight-hour standard of 9.0 ppm is exceeded. This typically occurs at severely congested intersections (level of service [LOS] E or worse).

The traffic study evaluated 10 intersections in the project vicinity that would carry the majority of project traffic. These intersections were evaluated under 2030 future conditions with and without full build-out of the DVSP Update. According to the traffic study, eight out of the 10 intersections would operate at a LOS E or F during at least one peak hour under future conditions. To estimate the most conservative and congested condition for the hot spot analysis, CO concentrations were analyzed at the three intersections that would result in a significant traffic impact under DVSP Update full build-out conditions, and the two intersections that would experience the greatest amount of delay under future conditions. These five intersections are:

- Santa Fe Avenue/Guajome Street – LOS F (AM and PM Peak Hours)
- Vale Terrace/Vista Way – LOS E (AM and PM Peak Hours)
- Escondido Avenue/Postal Way – LOS E (PM Peak Hour)
- Santa Fe Avenue/E. Broadway – LOS F (AM and PM Peak Hours)
- Santa Fe Avenue/Pala Vista Drive – LOS F (AM and PM Peak Hours)

The CALINE 4 model was used to estimate the potential CO impact at the above intersections during the most congested peak hour. Model inputs outputs all included in Appendix B. CO emission factors were generated using the EMFAC 2007 model. Table 4.2-9 displays the estimated CO concentrations at the affected intersections.

Table 4.2-9. Estimated CO Concentrations

Intersection	1-Hour CO Concentration (ppm)	8-Hour CO Concentration (ppm) <sup>(1)</sup>	Impact?
Santa Fe Avenue/Guajome Street	4.1	2.9	No
Vale Terrace/Vista Way	4.3	3.0	No
Escondido Avenue/Postal Way	4.2	2.9	No
Santa Fe Avenue/E. Broadway	4.1	2.9	No
Santa Fe Avenue/Pala Vista Drive	4.1	2.9	No
Significance Threshold	20.0 (State)/35.0 (Federal)	9.0 (State and Federal)	

<sup>(1)</sup> The 8-Hour concentration is based on a persistence factor of 0.7 for urban uses (Caltrans 1997).

Source: CALINE 4, 2009

The highest estimated one-hour CO concentration is 4.3 ppm at the Vale Terrace/Vista Way intersection. This would not exceed the California one-hour standard of 20 ppm or the federal one-hour standard of 35 ppm. Based on an urban persistence factor of 0.7 (for an urban area), the maximum cumulative 8-hour CO concentration at the intersection would be 3.0 ppm, which is below the 9 ppm California and federal 8-hour standard. No other intersections would result in an exceedance of either the state or federal CO standards. Therefore, potential CO impacts are less than significant.

### Toxic Air Contaminants

According to the San Diego County Guidelines, for typical land use projects that do not propose stationary sources of emissions regulated by SDAPCD, diesel-fired particulates are the primary TAC of concern. Based on the SCAQMD's "Health Risk Assessment Guidance for Analyzing Cancer Risks from Mobile Source Diesel Idling Emissions for CEQA Air Quality Analysis" (SCAQMD 2003), projects that should be analyzed for diesel particulate emissions include truck stops, distribution centers, and transit centers, which could be sources of diesel particulate matter from heavy-duty diesel trucks.

Since the DVSP Update includes commercial, residential, and municipal land uses that typically do not include stationary sources of emission regulation by the SDAPCD, the primary source of diesel PM would be construction equipment. As shown in Table 4.2-6, implementation of the DVSP Update would not result in significant PM during construction. Additionally, because diesel PM is considered to have long-term health effects and construction would be a short-term event, emissions would not result in a significant long-term health risk to surrounding receptors.

The residential and retail developments proposed within the SPA would not attract a disproportionate amount of diesel trucks and would not be considered a source of TAC emissions. Two potential sources of diesel PM within the SPA would be delivery trucks and transit buses. In 2004, the CARB adopted an Airborne Toxic Control Measure (ATCM) to limit heavy-duty diesel motor vehicle idling in order to reduce public exposure to diesel PM and other TACs and their pollutants. The measure applies to diesel-fueled commercial vehicles with gross vehicle weight ratings greater than 10,000 pounds that are licensed to operate on highways, regardless of where they are registered. The measure does not allow diesel fueled commercial vehicles to idle for more than five minutes at any given time. Potential localized air toxic impacts from on-site sources of diesel PM would be minimal since only a limited number of heavy-duty trucks would access the SPA, and the trucks that would frequent the area would not idle for extended periods of time.

Transit buses would be used throughout the SPA, and use of mass transit is encouraged. The majority of buses in the City are operated by the NCTD (the "Breeze" transit line). However, according to the NCTD, the entire



Breeze bus fleet is fueled with compressed natural gas (CNG), and therefore would not contribute to diesel particulate emissions.

Based on CARB siting recommendations within the Air Quality and Land Use Handbook, a detailed health risk assessment should be conducted for proposed sensitive receptors within 1,000 feet of a warehouse distribution center, within 300 feet of a large gas station (defined as a facility with a throughput of 3.6 million gallons per year or greater), 50 feet of a typical gas dispensing facilities or within 300 feet of a dry cleaning facility that uses perchloroethylene (PCE), among other siting recommendations (CARB 2005). Although the SPA would include primarily residential and commercial uses, the proposed allowed land uses may allow the development of gas stations and dry cleaning facilities, as these are common uses within mixed-use development. Therefore, impacts to sensitive receptors may be potentially significant.

With regard to off-site sources of TAC affecting proposed sensitive receptors, the CARB recommends that any receptors proposed within 500 feet of a highway to prepare a health risk assessment. The closest freeway to the SPA is SR-78. However, the closest areas along the western boundary of the SPA to SR-78 are greater than 500 feet from the freeway. Therefore, impacts associated with TACs from freeways would be less than significant.

### SIGNIFICANCE OF IMPACT

The DVSP Update would have the potential to allow the development of gas stations and dry cleaning facilities near sensitive receptors. Therefore, impacts would be potentially significant.

### MITIGATION MEASURES

Implementation of measure *Air-8* would reduce the potentially significant impact associated with TACs within the SPA to a less than significant level.

***Air-8*** Development proposed under the DVSP Update shall use the recommendations set forth in Table 1-1 of the CARB's Land Use and Air Quality Handbook (CARB 2005) as a guideline for siting sensitive land uses. Implementation of these recommendations would ensure that sensitive land uses such as residences, schools, day care centers, playgrounds, and medical facilities are sited appropriately to minimize exposure to emissions of TACs. Specific recommendations include the following:

- Avoid siting new sensitive uses within 300 feet of any dry cleaning operation that uses perchloroethylene. For operations with two or more machines, provide 500 feet separation. For operations with three or more machines, consult the SDAPCD for guidance on acceptable separation distances. Do not site new sensitive land uses in the same building with perchloroethylene dry cleaning operations.
- Avoid siting new sensitive uses within 300 feet of a large gas station (defined as a facility with a throughput of 3.6 million gallons per year or greater). A 50 foot separation distance is acceptable for standard gas dispensing facilities.

#### 4.2.5.4 Issue 5 – Odors

*Would the proposal create objectionable odors affecting a substantial number of people?*

##### IMPACT ANALYSIS

Construction associated with implementation of the DVSP Update could result in minor amounts of odor compounds associated with diesel heavy equipment exhaust. However, construction equipment would be operating at various locations throughout the SPA and would not take place all at once. Therefore, construction-related operations near existing receptors would be temporary in nature and construction activities would not be likely to result in nuisance odors that would violate APCD Rule 51. Impacts would be less than significant.

The CARB's Air Quality and Land Use Handbook includes a list of the most common sources of odor complaints received by local air districts. Typical sources of odor complaints include facilities such as sewage treatment plants, landfills, recycling facilities, petroleum refineries, and livestock operations. The DVSP accommodates the construction of commercial, recreational, and residential land uses, as well as municipal buildings such as City Hall and a library. These land uses do not typically result in a source of nuisance odors associated with operation. Additionally, the DVSP Update includes General Operating Standards for outdoor uses. Section 3.5.2(e) of Section 3.0 of the DVSP Update, the Area-wide Design and Development Guidelines, prohibits noxious odorous emissions from a substance or in a volume that is detrimental to or endangers the public health, safety, comfort or welfare. Any such emission shall be modified to prevent further emissions release. Therefore, odors would not be considered a nuisance under APCD Rule 51 and odor impacts would be less than significant.

##### SIGNIFICANCE OF IMPACT

Implementation of the DVSP Update would not create objectionable odors affecting a substantial number of people. Impacts would be less than significant.

##### MITIGATION MEASURES

Implementation of the DVSP Update would not result in a significant impact associated with odors. Therefore, no mitigation is required.

#### 4.2.6 CUMULATIVE IMPACTS

##### 4.2.6.1 Conflicts with the RAQS

As indicated in Table 4.0-1 of this PEIR impacts relative to consistency with applicable air quality plans are generally limited to the SPA. The cumulative projects identified in Table 4.0-2 that would be located within or adjacent to the SPA would include the Cypress Drive Subdivision, the S. Santa Fe Commercial Center, the Escondido Avenue Commercial Center, Common Grounds Café, Vista Village Drive Mixed Use, and Sonic Burger projects. The cumulative projects would be consistent with the RAQS and the SIP if they would propose development that is consistent with the growth anticipated by SANDAG. As shown in Table 4.2-5, the overall increase in housing units and corresponding population proposed by the DVSP Update represents a difference of less than one percent over the existing SANDAG projections for the City compared to the existing SP #26. Of the cumulative projects in the SPA, only the Cypress Drive Subdivision and Vista Village Drive Mixed Use projects would have the potential to increase the number of dwelling units in the SPA. The number of dwelling units associated with each project is currently unknown; however, it is unlikely that implementation of these projects, in combination with

implementation of the DVSP Update would result in overall increase in housing units and corresponding population more than one percent over the existing SANDAG projections for the City compared to the existing SP #26. Therefore, implementation of the DVSP Update and the cumulative projects within the SPA would be consistent with the SANDAG growth projections and would not conflict with RAQS or the SIP. A significant cumulative impact would not occur.

#### 4.2.6.2 Violations of Air Quality Standards

As indicated in Table 4.0-1 of this PEIR, the geographic context for the analysis of cumulative impacts relative to violations of air quality standards encompasses the SDAB. The SDAB is currently in non-attainment for PM<sub>10</sub>, and PM<sub>2.5</sub>, and O<sub>3</sub>. The cumulative projects listed in Table 4.0-2 would have the potential to result in emissions of PM<sub>10</sub>, and PM<sub>2.5</sub>, and O<sub>3</sub> during construction and operation. Therefore, a potentially significant cumulative impact would occur.

PM<sub>10</sub> and PM<sub>2.5</sub> emissions associated with construction generally result in near-field impacts. As shown in the project emissions evaluation, the emissions of PM<sub>10</sub> and PM<sub>2.5</sub> during construction would be below the significance levels. It is unlikely that all construction associated with the DVSP Update and other cumulative projects would be occurring at the same time. Additionally, it is unlikely that construction projects associated with the DVSP Update and those associated with cumulative projects would take place adjacent to each other. Therefore, project construction is not anticipated to result in a cumulatively significant impact related to particulate matter emissions. However, operation of future development under the DVSP Update would have the potential to result in significant levels of particulate matter emissions from vehicular sources. Therefore, project operation would result in cumulatively considerable particulate matter emissions.

With regard to cumulative impacts associated with O<sub>3</sub> precursors, in general, if a project is consistent with the community and general plans, it has been accounted for in the O<sub>3</sub> attainment demonstration contained within the SIP and would not cause a cumulatively significant impact on the ambient air quality for O<sub>3</sub>. As described in Section 4.2.5.1, the DVSP Update is consistent with SANDAG growth projections for the City. Additionally, the DVSP Update accommodates compact, mixed use development that would place residents in close proximity to commercial, municipal, and recreational land uses and would reduce vehicle trips, which would result in fewer vehicular emissions compared to typical residential developments. The DVSP Update also includes the Vista Transit Center, with Sprinter light rail and Breeze bus service, and a second Sprinter station on Escondido Avenue. The DVSP Update encourages future development to be highly walkable and transit-oriented, which would further reduce vehicle trips compared to typical commercial and residential development. Therefore, the DVSP Update would be consistent with goals set forth by the SDAPCD within the RAQS and SIP. However, as shown in Section 4.2.5.2, operation of future development under the DVSP Update would exceed the screening level thresholds for criteria pollutants established by the SDAPCD. Since the project would result in a significant and unavoidable impact associated with O<sub>3</sub> precursors, the project's contribution to the regional air quality impacts would be considered cumulatively considerable. Implementation of mitigation measures *Air-1* through *Air-7* for operational emissions associated with operation of future projects under the DVSP Update would reduce air pollutant emissions to the extent feasible; however, impacts would remain cumulatively considerable and unavoidable.

#### 4.2.6.3 Sensitive Receptors

As indicated in Table 4.0-1 of this PEIR, impacts relative to TACs are generally limited to the SPA or projects along the boundary of the SPA. The cumulative projects identified in Table 4.0-2 that would be located within or adjacent to the SPA would include the Cypress Drive Subdivision, the S. Santa Fe

Commercial Center, the Escondido Avenue Commercial Center, Common Grounds Café, Vista Village Drive Mixed Use, and Sonic Burger projects. These land use projects do not propose stationary sources of emissions regulated by SDAPCD; therefore, diesel-fired particulates are the primary TAC of concern. Since cumulative projects in the SPA propose commercial and residential land uses that typically do not include stationary sources of emissions regulated by the SDAPCD, the primary source of diesel PM would be construction equipment. As described above in the discussion of cumulative air quality standard impacts, implementation of the DVSP Update and cumulative projects would not result in significant cumulative impacts related to PM emissions during construction. Additionally, because diesel PM are considered to have long-term health effects and construction would be short-term event, emissions would not result in a significant long-term health risk to surrounding receptors. With regards to diesel trucks that would make deliveries to the proposed commercial developments, the CARB has adopted an ATCM that would limit heavy-duty diesel motor vehicle idling and reduces public exposure to diesel PM and other TACs and their pollutants. The cumulative projects would be required to comply with this measure. Therefore, a significant cumulative impact related to diesel PM would not occur. However, a mixed-use project such as the Escondido Avenue Commercial Center may allow the development of gas stations and dry cleaning facilities, as these are common uses within mixed-use development near residential developments. Therefore, cumulative impacts to sensitive receptors may be potentially significant. Implementation of the DVSP Update would result in potentially significant impacts to sensitive receptors related to TAC emissions in mixed use areas; however, implementation of mitigation measure *Air-8* would reduce impacts to below a significant level. Implementation of the DVSP Update would not result in a cumulatively considerable contribution to a significant cumulative impact.

As indicated in Table 4.0-1 of this PEIR, the geographic context for the analysis of cumulative impacts relative to exposure of sensitive receptors (e.g., residences, commercial developments, schools, hospitals) to CO "hot spots" includes the full range of cumulative projects listed in Table 4.0-2. It is assumed that traffic volumes from some of these projects may contribute to CO emissions at some of the eight intersections projected to operate below LOS E (refer above to Section 4.2.5.3). Some of the cumulative projects in Table 4.0-2 may not contribute any traffic volumes to certain intersections in Table 4.2-9, but it is beyond the scope of this analysis to identify the traffic volumes contributed from each of the cumulative projects at the affected intersections. Thus, all of the cumulative projects listed in Table 4.0-2 are considered to comprise the cumulative impact study area for this analysis. As indicated in Table 4.2-9, the background CO concentrations at the affected intersections are less than the NAAQS and CAAQS for CO with implementation of the DVSP Update and the cumulative projects. Therefore, the baseline cumulative impact to sensitive receptors exposed to CO "hot spots" in the local cumulative impact area is less than significant.

#### 4.2.6.4 Odors

As indicated in Table 4.0-1 of this PEIR, impacts relative to objectionable odors are generally limited to the SPA. The cumulative projects identified in Table 4.0-2 that would be located within or adjacent to the SPA would include the Cypress Drive Subdivision, the S. Santa Fe Commercial Center, the Escondido Avenue Commercial Center, Common Grounds Café, Vista Village Drive Mixed Use, and Sonic Burger projects. The cumulative projects do not propose any typical sources of odor complaints such as sewage treatment plants, landfills, recycling facilities, petroleum refineries, and livestock operations. Similar to the DVSP Update, the commercial and residential land uses proposed by the cumulative projects do not typically result in a source of nuisance odors associated with operation. Therefore, a significant cumulative impact would not occur.



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## 4.3 BIOLOGICAL RESOURCES

This section describes the biological setting of the SPA and evaluates the potential for impacts to biological resources to occur with implementation of the DVSP Update. The analysis provides information on the existing locations of any potentially sensitive biological resources and the potential for future development occurring under the DVSP Update to impact sensitive biological resources.

### 4.3.1 EXISTING CONDITIONS

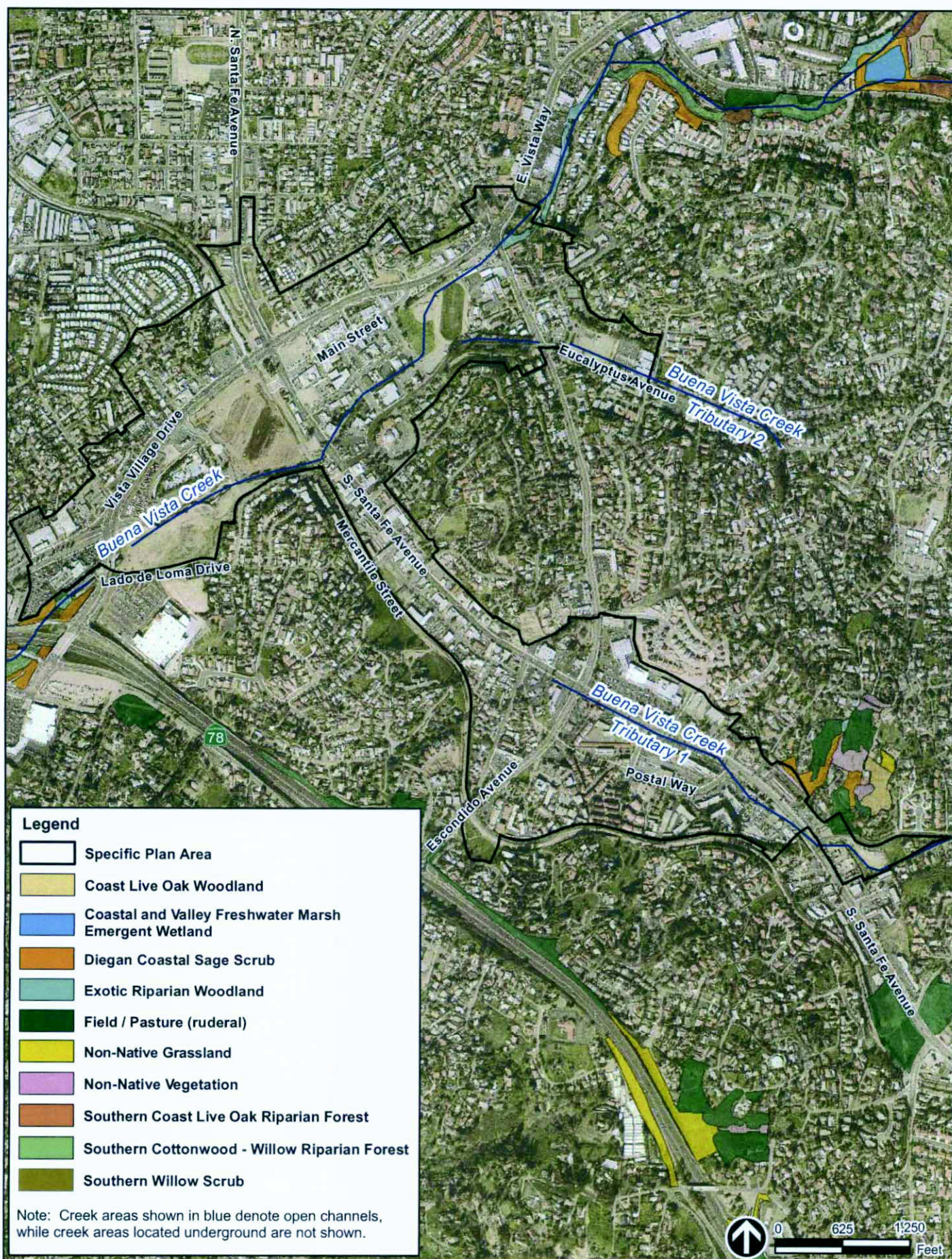
#### 4.3.1.1 Sensitive Plant and Wildlife Species

The California Natural Diversity Database (CNDDDB) is a database of rare plant and animal information maintained by the CDFG. The primary function of CNDDDB is to gather and disseminate data on the status and locations of rare and endangered plants, animals, and vegetation types (Bittman 2001). The SPA is located in the San Marcos United States Geological Survey (USGS) Quadrangle. The USGS is responsible for mapping the entire United States, and breaks the country into pieces of uniform size called quadrangles. The plant and animal species identified by the CNDDDB that may be found in this quadrangle and listed in Table 4.3-1. This list represents all the species that may be found throughout the San Marcos quadrangle, however, not all of these species may be found in the smaller SPA. Table 4.3-1 also identifies the status of each species according to the U.S. Fish and Wildlife Service (USFWS), CDFG, or California Native Plant Society (CNPS). Federal listing of endangered and threatened wildlife and plant species is administered by the USFWS. An "endangered" species is one that is in danger of extinction throughout all or a significant portion of its range. A "threatened" species is one that is likely to become endangered in the foreseeable future. The CDFG maintains a list of designated endangered, threatened, and rare plant and animal species. Listed species are either designated under the Native Plant Protection Act or designated by the Fish and Game Commission. In addition to recognizing three levels of endangerment, the CDFG affords interim protection to candidate species while they are being reviewed by the Fish and Game Commission. The CDFG also maintains a list of "Species of Special Concern," most of which are species whose breeding populations in California may face extirpation. Additionally, the CDFG considers species on Lists 1A, 1B, or 2 of the *California Native Plant Society's Inventory of Rare and Endangered Vascular Plants of California* as special status species. Species on CNPS List 1A are "presumed extinct in California." Species on List 1B are "rare or endangered in California and elsewhere." Species on List 2 are "rare or endangered in California and are more common elsewhere." Species on Lists 3 and 4 are not considered sensitive status species and are those which require more information to determine status and plants of limited distribution.

#### 4.3.1.2 Sensitive Habitat Communities

The City maintains a map of vegetation communities within its jurisdiction, including the SPA, which was prepared by the City's biological consultant, Merkel & Associates (2007). The City's vegetation map shows that the SPA is primarily developed; however, a few undeveloped areas containing vegetation communities are identified in the SPA (Figure 4.3-1). As identified in this figure, the vegetation communities within the SPA include a strip of exotic riparian woodland located on the northeastern boundary of PA-2, and non-native vegetation, Diegan coastal sage scrub, and field/pasture (ruderal) vegetation along the northeastern boundary of PA-1b.





Source: City of Vista; CASIL, 2009



Table 4.3-1. Sensitive Plant and Wildlife Species in the San Marcos USGS Quadrangle

Scientific Name Common Name	Federal Status <sup>(1)</sup>	California Status <sup>(2)</sup>	CDFG Status <sup>(3)</sup>	CNPS Listing <sup>(4)</sup>	Habitat Associations
<i>Spea hammondi</i> western spadefoot			SSC		Occurs primarily in ponds located in grassland habitats, but can be found in valley-foothill hardwood woodlands.
<i>Accipiter cooperii</i> Cooper's hawk			WL		Found in open, interrupted, or marginal type woodland. Nest sites mainly found in riparian growths of deciduous trees in canyon bottoms on river floodplains.
<i>Poliophtila californica californica</i> coastal California gnatcatcher	FE		SSC		Found in low, coastal sage scrub in arid washes, mesas, and slopes.
<i>Vireo bellii pusillus</i> least Bell's vireo	FE	SE			Summer resident of southern California in low riparian habitat in vicinity of water or dry river bottoms below 2000 feet elevation.
<i>Aimophila ruficeps canescens</i> southern California rufous-crowned sparrow			WL		Found in coastal sage scrub and sparse mixed chaparral.
<i>Lasiurus cinereus</i> hoary bat					Prefers open habitats or habitat mosaics, with access to trees for cover and open areas or habitat edges for feeding. Roosts in dense foliage of medium to large trees.
<i>Lasiurus xanthinus</i> western yellow bat			SSC		Found in valley foothill riparian, desert riparian, desert washes, and palm oasis habitats.
<i>Taxidea taxus</i> American badger			SSC		Most abundant in drier open stages of most shrub, forest, and herbaceous habitats, with friable soils.
<i>Phrynosoma coronatum</i> (blainvillii population) coast (San Diego) horned lizard			SSC		Inhabits coastal sage scrub and chaparral in arid and semi-arid climate conditions.
<i>Eumeces skiltonianus interparietalis</i> Coronado skink			SSC		Found in grassland, chaparral, pinyon-juniper and juniper sage woodland, and pine-oak and pine forests.
<i>Aspidoscelis hyperythra</i> orange-throated whiptail			SSC		Inhabits low-elevation coastal scrub, chaparral, and valley-foothill hardwood habitats.
<i>Aspidoscelis tigris stejnegeri</i> coastal western whiptail					Found in deserts and semiarid areas with sparse vegetation and open areas, and also in woodland and riparian areas.
<i>Crotalus ruber ruber</i> northern red-diamond rattlesnake			SSC		Found in chaparral, woodland, grassland, and desert areas from coastal San Diego County to the eastern slopes of the mountains.
<i>Branchinecta sandiegonensis</i> San Diego fairy shrimp	FE				Found in vernal pools.
<i>Eryngium aristulatum</i> var. <i>parishii</i> San Diego button-celery	FE	SE		1B.1	Occurs in vernal pools or mima mound areas <sup>5</sup>



Table 4.3-1. Continued

Scientific Name Common Name	Federal Status <sup>(1)</sup>	California Status <sup>(2)</sup>	CDFG Status <sup>(3)</sup>	CNPS Listing <sup>(4)</sup>	Habitat Associations
<i>Centromadia parryi</i> ssp. <i>australis</i> southern tarplant				1B.1	Found in marshes and swamps (margins), valley and foothill grassland.
<i>Isocoma menziesii</i> var. <i>decumbens</i> decumbent goldenbush				1B.2	Found in coastal sage scrub.
<i>Harpagonella palmeri</i> Palmer's grapplinghook				4.3	Occurs in clay vertisols with open grassy slopes or open Diegan coastal sage scrub <sup>(5)</sup>
<i>Arctostaphylos glandulosa</i> ssp. <i>crassifolia</i> Del Mar manzanita	FE			1B.1	Found in chaparral, closed-cone coniferous forest.
<i>Comarostaphylis diversifolia</i> ssp. <i>diversifolia</i> summer holly				1B.2	Found in chaparral.
<i>Tetracoccus dioicus</i> Parry's tetracoccus				1B.2	Found in chaparral, coastal sage scrub.
<i>Acanthomintha ilicifolia</i> San Diego thorn-mint	FT	SE		1B.1	Found in chaparral, coastal sage scrub, valley and foothill grassland, and vernal pools.
<i>Monardella hypoleuca</i> ssp. <i>lanata</i> felt-leaved monardella				1B.2	Found in chaparral and cismontane woodland.
<i>Navarretia fossalis</i> Moran's navarretia	FT			1B.1	Occurs in vernal pools, chenopod scrub, marshes and swamps, and playas.
<i>Adolphia californica</i> California adolphia				2.1	Found in chaparral, coastal sage scrub, and valley and foothill grassland.
<i>Ceanothus verrucosus</i> wart-stemmed ceanothus				2.2	Found in chaparral.
<i>Horkelia truncata</i> Ramona horkelia				1B.3	Found in chaparral and cismontane woodland.
<i>Brodiaea filifolia</i> thread-leaved brodiaea	FT	SE		1B.1	Occurs in cismontane woodland, coastal sage scrub, playas, valley and foothill grassland, and vernal pools.
<i>Brodiaea orcuttii</i> Orcutt's brodiaea				1B.1	Occurs in vernal pools, valley and foothill grassland, closed-cone coniferous forest, cismontane woodland, chaparral, and meadows.

(1) FE = Federally Endangered; FT = Federally Threatened

(2) SE = State Endangered; ST = State Threatened

(3) SSC = Species of Special Concern; WL = Watch list

(4) CNPS = California Native Plant Society; List 1B = Plants Rare, Threatened, or Endangered in California and Elsewhere; List 2 = Plants Rare, Threatened, or Endangered in California, But More Common Elsewhere; List 4 = Plants of Limited Distribution - A Watch List; Threat Rank 0.1 = Seriously threatened in California (high degree/immediacy of threat); Threat Rank 0.2 = Fairly threatened in California (moderate degree/immediacy of threat); Threat Rank 0.3 = Not very threatened in California (low degree/immediacy of threats or no current threats known)

(5) Source: Reiser 1994

Source: CDFG, 2009.

Areas adjacent to the SPA also contain vegetation communities. Exotic riparian woodland habitat is located along Buena Vista Creek adjacent to both the eastern boundary of PA-2 and southwestern boundary of PA-2. Diegan coastal sage scrub habitat is located along the southwestern boundary of PA-2 near Buena Vista Creek and the northeastern boundary of PA-1b. Ruderal vegetation is also located along the northeastern boundary of PA-1b.

The North County Multiple Habitat Conservation Plan (MHCP) is a comprehensive, multiple jurisdiction planning program designed to create, manage, and monitor an ecosystem preserve in northwestern San Diego County, including the City. According to the Environmental Impact Study (EIS)/EIR prepared for the North County MHCP, sensitive habitats within the North County MHCP study area are those that are considered rare in the region, support sensitive species of plants and animals, and/or are subject to regulatory protection through various federal, State, or local policies or regulations (P&D Environmental 2003). Developed and disturbed areas, non-native vegetation, and ruderal vegetation are not considered sensitive habitats. However, Diegan coastal sage scrub and exotic riparian woodland are considered sensitive habitats in the SPA.

#### **4.3.1.3 Migratory Birds**

Migratory birds embark twice a year on long-distance journeys between their breeding areas and wintering grounds. Their travels can traverse states, countries, and oceans. The USFWS is the principal federal agency charged with protecting and enhancing the populations and habitats of more than 800 species of migratory birds that spend all or part of their lives in the United States (U.S.) (USFWS 2004). One species listed in Table 4.3-1 is a migratory bird: the Cooper's hawk. As shown in Table 4.3-1, the Cooper's hawk may be found in open, interrupted, or marginal type woodlands which are not found in the SPA. Nest sites are mainly found in riparian growths of deciduous trees in canyon bottoms on river floodplains. Exotic riparian woodland is identified within and adjacent to the eastern portion of PA-2 along Buena Vista Creek and adjacent to the western portion of PA-2 also along Buena Vista Creek near the SR-78. Therefore, nesting sites of the Cooper's hawk have the potential to be found in the SPA in these two areas.

#### **4.3.1.4 Jurisdictional Wetlands and Waterways**

Jurisdictional wetland and waterway boundaries are determined according to the federal (ACOE) and State (CDFG) agencies' definitions of wetlands and non-wetland waters of the U.S. These definitions are provided in Section 4.3.2, Regulatory Framework. The SPA is traversed by Buena Vista Creek in an east-west direction from the eastern portion of PA-2 to the western portion of PA-2 and Tributary 1 in a northwest-southeast direction along S. Santa Fe Avenue through the entire length of the planning area south of its confluence with Buena Vista Creek. In addition, Tributary 2 trends east-west and converges in a confluence with Buena Vista Creek at Citrus Avenue in the northeastern portion of the SPA. Buena Vista Creek is located above-ground for its entire length through the SPA. However, portions of Tributaries 1 and 2 are located both above-ground and below-ground in the SPA. The portions of these water bodies that are located above-ground are shown on Figure 4.3-1. These water bodies contain little natural habitat due to heavy development and channelization in most of the SPA; however, Buena Vista Creek and its tributaries can support riparian vegetation communities downstream of the SPA. Some exotic riparian woodland is identified within and adjacent to the eastern portion of PA-2, and adjacent to the western portion of PA-2. Therefore, Buena Vista Creek or its tributaries may be considered jurisdictional wetlands or waterways under the jurisdiction of the ACOE or CDFG.

## 4.3.2 REGULATORY FRAMEWORK

Biological resources within the SPA are subject to regulatory administration by the federal government and the State of California. The federal government administers non-marine plant and wildlife-related issues through the USFWS, while waters of the U.S. issues are administered through the ACOE and the California Regional Water Quality Control Boards (RWQCBs). California law relating to wildlife issues is administered by the CDFG, while CDFG and the RWQCBs both administer laws relating to Waters of the State.

### 4.3.2.1 Federal

#### Endangered Species Act (ESA)

The U.S. Congress passed the federal ESA in 1973 to provide a means for conserving the ecosystems. The ESA, administered by the USFWS, provides the legal framework for the listing and protection of species (and their habitats), which are identified as being endangered or threatened with extinction. Actions that jeopardize endangered or threatened species and the habitats upon which they rely are considered a 'take' under the ESA. Section 9(a) of the ESA defines take as, "to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or attempt to engage in any such conduct." 'Harm' and 'harass' are further defined in federal regulations and case law to include actions that adversely impair or disrupt a listed species' behavioral patterns.

The four major components of the ESA are Sections 4, 7, 9, and 10. Section 4 gives provisions for listing species and designating critical habitat; the Section 7 requirement ensures that actions of federal agencies, in consultation with the USFWS, are not likely to jeopardize the continued existence of species or result in the modification or destruction of critical habitat; Section 9 prohibits the "taking" of listed species; and Section 10 provides provisions for permitting the incidental take of listed species. Portions of Sections 7, 9, and 10 may pertain to the implementation of the DVSP Update, and thus are discussed in further detail below.

Section 7 describes a process of federal interagency consultation for use when federal actions may adversely affect listed species. A biological assessment is required for any major construction activity if it may affect listed species. In this case, take can be authorized via a letter of biological opinion, issued by the USFWS for non-marine listed species issues.

Section 9 of the ESA prohibits any person from "taking" an endangered animal species. Regulations promulgated by USFWS and NMFS make the take prohibition generally applicable to threatened animal species as well. Section 9 prohibits the clearing of habitat that results in death or injury to members of a protected species. An authorization to incidentally take listed species can be obtained either through a Section 7 Biological Opinion or through a Section 10 take permit issued pursuant to a Habitat Conservation Plan (HCP).

Section 10(a) allows issuance of permits for 'incidental' take of endangered or threatened species. The term 'incidental' applies if the taking of a listed species is incidental to, and not the purpose of, an otherwise lawful activity. A habitat conservation plan, demonstrating how the taking will be minimized and identifying the steps to be taken to ensure the species' survival, must be submitted for issuance of the Section 10(a) permit. A special rule under Section 4(d) of the ESA was finalized which authorizes take of certain protected species under an approved NCCP Program, which is administered by the states.

### Clean Water Act (CWA)

Under Section 404 of the CWA, ACOE regulates the disposal of dredged and fill materials into "waters of the U.S." The term "waters of the U.S." is defined in 33 CFR Part 328(a) and includes: 1) all navigable waters (including all waters subject to the ebb and flow of the tide); 2) all interstate waters and wetlands; 3) all other waters such as intrastate lakes, rivers, streams, (including intermittent streams), mudflats, wetlands, sloughs, prairie potholes, wet meadows, playa lakes, or natural ponds, the use, degradation or destruction of which could affect interstate or foreign commerce; 4) all impoundments of water mentioned above; 5) all tributaries to waters mentioned above; 6) the territorial seas; and 7) all wetlands adjacent to waters mentioned above. In areas subject to tidal influence, Section 404 jurisdiction extends to the high tide line. Certain waters of the U.S. are considered "special aquatic sites" because they are generally recognized as having particular ecological value. Such sites include sanctuaries and refuges, mudflats, wetlands, vegetated shallows, coral reefs, and riffle and pool complexes. Special aquatic sites are defined by the U.S. EPA and may be afforded additional consideration in the permit process for a project. Wetlands are defined at 33 CFR 328.3(b) as "those areas that are inundated or saturated by surface or ground water at a frequency and duration sufficient to support ... a prevalence of vegetation typically adapted for life in saturated soil conditions." To be considered a jurisdictional wetland under the ACOE, all three parameters (hydrophytic vegetation, wetland hydrology, and hydric soils) must be present. The ACOE also regulates navigable waters under Section 10 of the Rivers and Harbors Act. These are defined as "...those waters of the U.S. that are subject to the ebb and flow of the tide shoreward to the mean high water mark and/or are presently used, or have been used in the past, or may be susceptible to use to transport interstate or foreign commerce" (33 CFR Part 322.2).

A permit from the ACOE must be obtained for any dredge or fill activities within jurisdictional waters of the U.S. During the permit review process the ACOE determines the type of permit appropriate for the DVSP Update. There are two types of permits issued by the ACOE:

- General Permits issued on a State, regional and nationwide basis, which cover a variety of activities including minimal individual and cumulative adverse affects. These permits fit into specific categories established by the ACOE.
- Individual Permits issued for a case-specific activity.

In addition to the Section 404 permit, Section 401 of the CWA requires that for all 404 permits an applicant shall obtain a certificate from the appropriate State agency stating that the fill is consistent with the State's water quality standards and criteria. In California, the authority to grant certification or waive the requirement for permits under Section 401 is delegated by the State Water Resources Control Board to the RWQCBs. Pursuant to the Porter-Cologne Water Quality Control Act (described further in Section 4.8.2.2), each of California's nine regional boards must prepare and periodically update basin plans that set forth water quality standards for surface and groundwater, as well as actions to control point and non-point sources of pollution. Basin plans offer an opportunity to achieve wetlands protection through enforcement of water quality standards.

### Migratory Bird Treaty Act (MBTA)

The MBTA of 1918 (16 U.S. Code 703-711) is an international treaty for the conservation and management of bird species that may migrate through more than one country. It is enforced in the U.S. by the USFWS, and makes it unlawful to take, possess, buy, sell, purchase, or barter any migratory bird listed in 50 CFR Part 10, including feathers or other parts, nests, eggs, or products, except as allowed by implementing regulations (50 CFR 21). Disturbance that causes nest abandonment and/or loss of reproductive effort (e.g., killing or abandonment of eggs or young) may be considered a "take" and is



potentially punishable by fines and/or imprisonment. In 1972, the MBTA was amended to include protection for migratory birds of prey (raptors).

#### 4.3.2.2 State

##### California Endangered Species Act (CESA)

The CESA authorizes the California Fish and Game Commission to designate endangered, threatened, and rare species and to regulate the taking of these species (Sections 2050-2098, Fish and Game Code). CESA defines "endangered" species as those whose continued existence in California is jeopardized. State-listed "threatened" species are those not presently threatened with extinction, but which may become endangered in the foreseeable future. Protection of special-status species is detailed in Sections 2050 et seq. of the Fish and Game Code. The CCR (Title 14, Section 670.5) lists species considered endangered and threatened by the State. Formal consultation must be initiated with the CDFG for projects that may have an adverse effect on a State-listed species.

Section 2080 of the California Fish and Game Code prohibits the taking of State listed plant and animals. The CDFG also designates "fully protected" or "protected" species as those that may not be taken or possessed without a permit from the Fish and Game Commission and/or the CDFG. Species designated as fully protected or protected may or may not be listed as endangered or threatened.

##### Fish and Game Code Section 1602

The CDFG has regulatory authority over actions that would "divert, obstruct or change the natural flow or bed, channel or bank of any river, stream or lake designated by the Department," pursuant to Section 1602 of the Fish and Game Code (Division 2, Chapter 60). Section 1602, et seq. of the Fish and Game Code requires private and public estates to notify CDFG prior to any project that would divert, obstruct, or change the natural flow or bed, channel, or bank of any river, stream, or lake. The California Fish and Game Code may regulate riparian and wetland habitats by requiring review and approval of impacts during issuance of a Streambed Alteration Agreement. Streambed Alteration Agreements are required prior to impacts to any waters of the State.

The breadth of jurisdiction under the CDFG includes the streambed, which differs from ACOE jurisdiction, which is limited to the ordinary high water mark. CDFG jurisdiction encompasses the entire width of the streambed, from bank to bank, regardless of the water level. In addition, jurisdictional wetlands under the CDFG only require that one wetland parameter be present, but the wetlands must be associated, within or adjacent to, a streambed. Furthermore, CDFG jurisdiction extends over "adjacent riparian habitat," including all riparian habitat supported by a river, stream or lake, even if the riparian area does not necessarily meet the hydrophytic vegetation criteria as defined by the ACOE.

##### NCCP Act of 1991

The NCCP Act is designed to conserve natural communities at the ecosystem scale while accommodating compatible land uses. CDFG is the principal State agency implementing the NCCP Program. The Act established a process to allow for comprehensive, regional multi-species planning in a manner that satisfies the requirements of the State and federal ESAs (through a companion regional Habitat Conservation Plan). The NCCP program has provided the framework for innovative efforts by the State, local governments, and private interests, to plan for the protection of regional biodiversity and the ecosystems upon which it depend. NCCPs seek to ensure the long-term conservation of multiple species, while allowing for compatible and appropriate economic activity to proceed.



### 4.3.2.3 Regional

#### North County MHCP

The North County MHCP is a comprehensive, multiple jurisdiction planning program under the State NCCP Act designed to create, manage, and monitor an ecosystem preserve in northwestern San Diego County. The overall objective of the North County MHCP is to conserve viable populations of native plant and animal species and their habitats in perpetuity. The North County MHCP subregion encompasses seven incorporated cities including Carlsbad, Encinitas, Escondido, Oceanside, San Marcos, Solana Beach, and Vista. Each City is required to implement a subarea plan that describes the specific policies that each City will institute for the North County MHCP. The North County MHCP was approved by SANDAG in April 2003; however, the City's Subarea Plan is currently in preparation.

The North County MHCP includes Focused Planning Areas (FPAs) which are represented by a combination of "hardline" preserves, indicating lands that will be conserved and managed for biological resources, and "softline" planning areas, within which preserve areas will ultimately be delineated based on further data and planning. The FPAs delineated in the North County MHCP are target areas for conservation planning purposes to be incorporated into the jurisdiction's subarea plans for perpetual conservation. The proposed SPA is not located within a North County MHCP FPA.

The North County MHCP includes adjacency standards to address development that is planned near FPA preserve areas. The adjacency standards for new development focus on avoidance and minimization of impacts to biological resources within the preserve from new development, and retention of core areas and functional linkages. However, the proposed SPA is not located adjacent to any FPA preserve areas and, therefore, the North County MHCP adjacency guidelines would not apply.

### 4.3.3 IMPACT SIGNIFICANCE CRITERIA

Implementation of the DVSP Update would result in a significant direct impact on biological resources if it would:

1. Have a substantial adverse effect, either directly, or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the CDFG or USFWS;
2. Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, or regulations or by the CDFG or USFWS;
3. Have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the CWA (including, but not limited to, marsh, vernal pool, coastal, etc) through direct removal, filling, hydrological interruption, or other means;
4. Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites;
5. Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance; or
6. Conflict with the provisions of an adopted Habitat Conservation Plan, NCCP, or other approved local, regional, or State habitat conservation plan.

### 4.3.4 METHOD OF ANALYSIS

The section below gives full consideration to the development of the SPA and acknowledges the physical changes that would occur to the existing setting from implementation of the proposed project. Impacts to the existing environment of the project area were determined by comparing the proposed DVSP Update boundary to the City's biological resources map and identifying sensitive biological resources within and adjacent to the potential development footprint of the SPA. The CNDDB was used to determine the sensitive species that may occur in the SPA. Additionally, the DVSP Update was compared to local plans and policies related to biological resources to determine consistency with applicable requirements and provisions.

### 4.3.5 PROJECT IMPACTS AND MITIGATION

#### 4.3.5.1 Issues 1, 2, 3 and 4 – Impacts to Sensitive Species, Riparian or Other Sensitive Habitats, Federally Protected Wetlands, and Migratory Species

*Would implementation of the DVSP Update have a substantial adverse effect, either directly, or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the CDFG or USFWS?*

*Would implementation of the DVSP Update have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, or regulations or by the CDFG or the USFWS?*

*Would implementation of the DVSP Update have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the CWA (including, but not limited to, marsh, vernal pool, coastal, etc) through direct removal, filling, hydrological interruption, or other means?*

*Would implementation of the DVSP Update interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?*

#### IMPACT ANALYSIS

Potential project impacts to sensitive habitat and sensitive plant and animal species, including rare, threatened, and endangered species, federally protected wetlands, and migratory fish or wildlife species, are discussed below.

#### Direct Impacts to Habitat and Sensitive Species

##### *Vegetation Communities and Sensitive Habitat*

The majority of the SPA contains developed land or disturbed vegetation and does not contain sensitive habitat or vegetation communities; therefore, most future development accommodated by the DVSP Update would be located in previously developed areas and would not result in any direct impacts to sensitive natural communities. However, two areas of sensitive habitat are found in or adjacent to the SPA. Figure 4.3-1 identifies two vegetation communities located within the SPA that are considered sensitive: 1) approximately 0.6-acre of exotic riparian woodland along Buena Vista Creek in the northeastern area of PA-2, and 2) approximately 0.3-acre of Diegan coastal sage scrub along the eastern boundary of PA-1b.

Future development accommodated by the DVSP Update would have the potential to occur on a site that contains exotic riparian woodland or Diegan coastal sage scrub habitat. Buildout of the DVSP Update would have the potential to directly impact 0.6-acre of exotic riparian woodland and 0.3-acre of Diegan coastal sage scrub. Although this constitutes a very small portion of the SPA, the DVSP Update would have the potential to result in the direct impact or removal of these two sensitive habitats. Future developments with the potential to impact these sensitive habitats would require a site-specific CEQA analysis to determine the extent of the impacts to biological resources. Therefore, implementation of the DVSP Update would have the potential to result in substantial adverse impacts to sensitive habitats or vegetation communities and a potentially significant impact would occur.

#### ***Sensitive Animal and Plant Species***

Several plant and animal species classified as federally or State-listed endangered species, or narrow endemic species, were identified in the CNDDB in the vicinity of the SPA, as identified in Table 4.3-1. Direct removal of habitat that supports one or more of these species would result in direct impact to a sensitive animal and plant species. As described above, the majority of the SPA is developed or consists of disturbed vegetation that does not provide habitat for sensitive animal or plant species. Future development under the DVSP Update that would involve redevelopment of existing developed areas or be located in a previously disturbed area would not result in a direct impact to sensitive species. However, as discussed above, implementation of the DVSP Update would have the potential to result in the direct removal of 0.6-acre of exotic riparian woodland in PA-2 and 0.3-acre of Diegan coastal sage scrub in PA-1b. These vegetation communities support sensitive species, as shown in Table 4.3-1. Sensitive species that may be found in exotic riparian woodland include Cooper's hawk and the coastal western whiptail. Sensitive species that may be found in Diegan coastal sage scrub habitat include Palmer's grapplehook, Parry's tetracoccus, San Diego thorn-mint, California adolphia, thread-leaved brodiaea, coastal California gnatcatcher, southern California rufous-crowned sparrow, coast (San Diego) horned lizard, and decumbent goldenbush. As discussed above, future development accommodated by the DVSP Update would have the potential to occur on a site that contains a sensitive habitat community. Therefore, the DVSP Update would have the potential to result in the direct removal of a vegetation community that supports a sensitive animal or plant species, and mitigation would be required. Future developments with the potential to impact sensitive habitats would require a site-specific CEQA analysis to determine the extent of the impacts to biological resources. Therefore, implementation of the DVSP Update would have the potential to result in a significant impact to sensitive animal or plant species.

#### ***Migratory Species***

The SPA is primarily developed and is surrounded by similar urban development. Vegetation located in the SPA consists mostly of street trees and ornamental vegetation used in landscaping, occurs in isolated patches and does not provide a habitat corridor for the movement of migratory species. The SPA is not located in a BCLA, as identified in the North County MHCP, which are areas of regional importance for migratory species. One migratory bird may be found in the SPA, the Cooper's hawk, which is a nesting raptor. A potentially significant direct impact to Cooper's hawk would occur if active nests are present on a future development site in the SPA and would be required to be cleared prior to project construction. As shown in Table 4.3-1, the Cooper's hawk is found in open, interrupted, or marginal type woodland. Nest sites are mainly found in riparian growths of deciduous trees in canyon bottoms on river floodplains. The SPA does not contain open, interrupted, or marginal type woodland habitat. However, the City does identify an area of exotic riparian woodland habitat along the northeastern boundary of PA-2 along the Buena Vista Creek channel. The DVSP Update would allow future development to occur in this area of PA-2 that contains exotic riparian woodland habitat, which may be used as a nursery site for the Cooper's hawk. Therefore, the DVSP Update would have the potential to result in a significant direct impact to this migratory species.

### ***Jurisdictional Wetlands***

Buena Vista Creek and its Tributaries 1 and 2 traverse the SPA. Buena Vista Creek supports 0.6-acre of exotic riparian woodland habitat within PA-2 and riparian habitat and wetland communities upstream and downstream of the SPA. Tributaries 1 and 2 do not support riparian habitat within the SPA. Wetlands are defined in 33 CFR 328.3(b) as “those areas that are inundated or saturated by surface or ground water at a frequency and duration sufficient to support ... a prevalence of vegetation typically adapted for life in saturated soil conditions.” To be considered a jurisdictional wetland under the ACOE, hydrophytic vegetation, wetland hydrology, and hydric soils must be present. Jurisdictional wetlands under the CDFG only require that one wetland parameter be present, but the wetlands must be associated, within, or adjacent to a streambed. Buena Vista Creek currently supports riparian habitat and may be considered a jurisdictional wetland by the CDFG or the ACOE if one or both of the other two parameters are also present. Future development in the SPA on a site that is adjacent to or traversed by Buena Vista Creek would have the potential to result in an alteration to this waterway, such as a temporary diversion of flows during construction or a permanent increase in runoff, that may require consultation with or a permit from the ACOE, CDFG, and/or SDRWQCB. Therefore, the DVSP Update would have the potential to result in a significant impact to jurisdictional wetlands.

### **Indirect Impacts**

The SPA is generally surrounded by urban development; however, as described above the City identifies small areas of sensitive Diegan coastal sage scrub habitat adjacent to the western boundary of PA-2 and the eastern boundary of PA-1b. Sensitive exotic riparian woodland is also located adjacent to the northeastern boundary of PA-2. Potential indirect impacts to sensitive adjacent habitats that may result from future development under the DVSP Update are described below.

- Fugitive dust produced by construction activities in the SPA, consistent with the uses allowed in the DVSP Update, would have the potential to disperse onto sensitive vegetation adjacent to construction sites, reducing their photosynthetic capabilities and increasing their susceptibility to pests or disease. In turn, this would have the potential to affect animals dependent on these plants. As identified in Section 4.2, Air Quality, implementation of the DVSP Update would have a less than significant impact related to fugitive dust during construction; therefore, the indirect impact to biological resources would be less than significant as well.
- Urbanization and increases in human activity can result in degradation to sensitive vegetation by fragmenting the land and forming edges between developed areas and habitat. Additionally, predation of native species by domesticated animals may be introduced if residential development would be located on the edge of a natural vegetation community that supports native species. Indirect impacts caused by increased human activity and edge effects would be less than significant since the SPA and surrounding areas are primarily urbanized and existing habitat is fragmented.
- Non-native plants introduced through landscaping would have the potential to colonize development and infrastructure sites and spread into adjacent native habitats. The DVSP Update proposes landscape guidelines specific to each planning area. Future development under the DVSP Update would be required to be consistent with the applicable landscape plan, including the allowed tree, shrub, and groundcover vegetation. Sidewalks, roadways, and landscape design elements such as planters would separate landscaping from existing areas of sensitive natural vegetation. Additionally, the DVSP Update Area-wide Design and Development Plan requires regular maintenance of landscaping, which would reduce the risk of overgrowth and spread of non-native plants. Therefore, indirect impacts associated with the introduction of non-native species would be less than significant.



- Increases in noise levels due to construction activities or roadway traffic would have the potential to displace sensitive species such as the coastal California gnatcatcher, southern California rufous-crowned sparrow, and coast (San Diego) horned lizard. To avoid noise impacts, breeding birds and mammals may temporarily or permanently leave their territories, which would have the potential to lead to reduced reproductive success and increased mortality. Noise levels in the SPA currently exceed the noise level limits established in the City's General Plan; therefore, wildlife located in the SPA is already exposed to substantial noise impacts. Additionally, implementation of the DVSP Update would not result in a significant increase in traffic noise levels over existing levels. Therefore, indirect noise impacts to sensitive species would be less than significant. Refer to Section 4.10, Noise, regarding potential impacts to noise.
- Increased night lighting on native sensitive habitats would have the potential to provide nocturnal predators with an unnatural advantage over their prey. Artificial light can also disrupt other essential behavioral and ecological processes (e.g., breeding, foraging, migration, etc.). Refer to Section 4.1, Aesthetics, regarding the potential increase in night lighting as a result of DVSP Update implementation. As discussed in this section, a substantial amount of nighttime lighting already occurs in the SPA and the DVSP Update includes guidelines to minimize nighttime lighting impacts. Therefore, indirect impacts to sensitive species associated with nighttime lighting would not occur.
- Pollutants in runoff and sedimentation would have the potential to result in adverse impacts to Buena Vista Creek and/or its tributaries. As discussed in Section 4.8, Hydrology and Water Quality, compliance with City requirements such as the City's Stormwater Standards Manual, Grading and Erosion Control Ordinance, and Stormwater Management and Discharge Control Ordinance would reduce the proposed project's potential water quality and hydrology impacts to a less than significant level. Therefore, indirect impacts associated with pollutants in runoff and sedimentation would not occur.

As described above, implementation of the DVSP Update would not result in any significant indirect impacts to sensitive plant and animal species, sensitive habitats and vegetation communities, federally protected wetlands, or migratory species.

### SIGNIFICANCE OF IMPACT

Implementation of the DVSP Update would result in potentially significant impacts to Diegan coastal sage scrub and exotic riparian woodland habitats. As a result, the DVSP Update would have the potential to result in significant impacts to special status plant and animal species that occur in these habitats. In addition, the project would also have the potential to impact jurisdictional waterways. Finally, the project would have the potential to impact one migratory species, the Cooper's hawk.

### MITIGATION MEASURES

Implementation of measure *Bio-1* would reduce the potentially significant impacts to sensitive habitats, vegetation communities, and sensitive species to a less than significant level. Implementation of measure *Bio-2* would reduce the potentially significant impacts to jurisdictional waters a less than significant level. Implementation of measure *Bio-3* would reduce the potentially significant impacts to Cooper's hawk to a less than significant level.

- Bio-1* For all future projects in the SPA on a site which is mapped by the City as supporting a sensitive vegetation type, surveys for sensitive plant and animal species shall be conducted by



a qualified biologist during the appropriate season as part of, or prior to, the project planning or design phase. If sensitive plant or animal species are observed, they shall be avoided if possible. If impacts cannot be avoided, the significance of the impacts to those species must be evaluated in compliance with CEQA and any significant impacts shall be mitigated based on the recommendations of the qualified biologist and the mitigation requirements of the North County MHCP Table B-8, or the City of Vista Subarea Plan, if adopted prior to approval of a grading permit for the future project.

**Bio-2** For all future projects in the SPA located on a site adjacent to or traversed by Buena Vista Creek, a qualified biologist, shall determine if the project would have the potential to impact the adjacent waterway. If the waterway would be potentially impacted by the project, the qualified biologist shall determine if the waterway meets the criteria for a jurisdictional wetland or water of the U.S. by the ACOE or a streambed or bank under the jurisdiction of the CDFG. If it is determined that the waterway is jurisdictional, the applicant shall obtain the following permits, as necessary.

- Authorization for the fill of jurisdictional waters of the U.S. from the ACOE through the CWA Section 404 permitting process;
- A water quality certification pursuant to Section 401 of the CWA; and/or
- Authorization for the alteration of streambeds and banks within the State under Section 1602 of the Fish and Game Code of California.

**Bio-3** Prior to initiation of project construction on a site within the SPA during the raptor nesting season (generally March 1 through August 15), where suitable trees for raptor nesting occur on the project site or within 500 feet of the site, preconstruction surveys for raptor nests shall be performed by a qualified biologist. If there are no raptors nesting (which includes nest building or other breeding/nesting behavior) within 500 feet of the site, clearing shall be allowed to proceed. Construction activities within 500 feet of active nests shall not be allowed to resume during the breeding season until a qualified biologist determines that the nest is no longer active.

#### 4.3.5.2 Issues 5 and 6 – Impacts to Adopted Policies and Plans

*Would implementation of the DVSP Update conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?*

*Would implementation of the DVSP Update conflict with the provisions of an adopted Habitat Conservation Plan, NCCP, or other approved State, regional, or local habitat conservation plan?*

#### IMPACT ANALYSIS

As discussed in Section 4.9, Land Use, with implementation of a General Plan Amendment and rezone, the DVSP Update would not result in a land use which is inconsistent with policies in the City's General Plan protecting biological resources or conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the project. Therefore, no significant impacts associated with conflicts with local policies or ordinances protecting biological resources would occur.

The SPA is covered by the North County MHCP, which is the applicable adopted habitat conservation plan for this area. However, no subarea plan has been adopted for the City, including the SPA. According to the North County MHCP, the SPA is mapped as mostly developed and is not identified for

conservation as a BCRA or FPA. Therefore, implementation of the DVSP Update would not result in an impact to any area proposed for conservation and would not conflict with the North County MHCP.

Additionally, future development under the DVSP Update would be required to conform to the NCCP Guidelines for take of coastal sage scrub under the ESA 4(d) process if coastal sage scrub was present in the development areas. Therefore, the project would not conflict with the provisions of the NCCP.

### **SIGNIFICANCE OF IMPACT**

Implementation of the DVSP Update would not conflict with the provisions of an adopted Habitat Conservation Plan; NCCP; other approved State, regional, or local habitat conservation plan; or any local policy or ordinance. Therefore, no impact would occur.

### **MITIGATION MEASURES**

Implementation of the DVSP Update would not result in a significant impact associated with impacts to adopted policies and plans. . Therefore, no mitigation is required.

## **4.3.6 CUMULATIVE IMPACTS**

For biological resources identified as sensitive in the North County MHCP, including sensitive species and habitats, the cumulative impact study area includes the designated open space preserves within the North County MHCP boundary (cities of Carlsbad, Encinitas, Escondido, Oceanside, San Marcos, Solana Beach, and Vista). For State- and federally listed species, migratory birds, and jurisdictional waterways the cumulative impact study areas include California and the U.S., respectively.

### **4.3.6.1 Impacts to, Sensitive Species, Riparian or Other Sensitive Habitats, Federally Protected Wetlands, and Migratory Species**

Implementation of the cumulative projects would involve development that would result in direct and indirect impacts to sensitive habitats, plant or animal species. Each of the identified cumulative projects would be required to analyze and mitigate impacts to sensitive habitat as a result of its development. Additionally, cumulative projects would be required to comply with the mitigation ratios established in the North County MHCP in Table 4-6, as well as the policies established for the BCLA, FPAs, and areas designated in the North County MHCP as preserve areas. Loss value replacements for habitat are established by the resource agencies, and are consistent for all North County MHCP jurisdictions. This means that from the habitat value perspective, there would be no net loss if the requirements established by the North County MHCP are met. Consistent with State and federal regulations, the North County MHCP also established a no net loss mitigation requirement for riparian and wetland habitats, which would include federally protected wetlands. Compliance with the North County MHCP must be determined as part of the CEQA process prior to cumulative project approval. Additionally, the cumulative projects would be required to comply with the MBTA, and would be required to identify and mitigate impacts to migratory birds. Cumulative projects would also be required to comply with the CWA Section 404 permitting process for impacts to any jurisdictional waterway. The North County MHCP includes BCLAs and compliance with the policies established for the BCLAs would ensure that impacts to other migratory species would not occur. Therefore, compliance with the North County MHCP, MBTA, CWA, ESA, and CESA would ensure that a significant cumulative impact would not occur to sensitive species, sensitive habitat, federally protected wetlands, or migratory species.

### 4.3.6.2 Impacts to Adopted Policies and Plans

Similar to implementation of the DVSP Update, the cumulative projects would be required to demonstrate compliance with the applicable General Plan and any other local policies that would pertain to the cumulative SPA as part of the CEQA process prior to project approval. As stated above in Section 4.3.6.1, cumulative projects would also be required to demonstrate compliance with the North County MHCP and with the NCCP Guidelines for take of coastal sage scrub under the ESA 4(d) process prior to project approval. Therefore, a significant cumulative impact would not occur.

### 4.3.7 REFERENCES

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## 4.4 CLIMATE CHANGE

This section describes existing conditions within the SPA with respect to climate change; the potential physical environmental effects (direct, indirect, and/or cumulative) associated with the generation of greenhouse gases (GHG) and compliance with applicable plans, policies, and regulations adopted for the purpose of reducing the emissions of GHG from the DVSP Update.

### 4.4.1 EXISTING CONDITIONS

#### 4.4.1.1 Global Climate Change Overview

Global climate change refers to any substantial change in measures of climate (such as temperature, precipitation, or wind) lasting for decades or longer. Global warming is an average increase in the temperature of the atmosphere, which can contribute to changes in global climate patterns. Some GHG, such as water vapor, occur naturally and are emitted to the atmosphere through natural processes, while others are emitted through human activities.

According to the EPA, the Earth's climate has changed many times during the planet's history, with events ranging from ice ages to long periods of warmth. Historically, natural factors such as volcanic eruptions, changes in the Earth's orbit, and the amount of energy released from the Sun have affected the Earth's climate. Beginning late in the 18th century, human activities associated with the Industrial Revolution have also changed the composition of the atmosphere and therefore very likely are influencing the Earth's climate. For over the past 200 years, the burning of fossil fuels, such as coal and oil, and deforestation has caused the concentrations of heat-trapping GHG to increase substantially in the atmosphere.

The accumulation of GHG in the atmosphere regulates the earth's temperature. Without the natural heat-trapping effects of GHG, the earth's temperature would be about 34 degrees Celsius cooler (California Climate Action Team [CCAT] 2007). However, it is believed that emissions from human activities, such as electricity production and vehicle use, have elevated the concentration of these gases in the atmosphere beyond the level of naturally occurring concentrations.

The Global Carbon Project (2008) released an update of the global carbon budget for the year 2007. The atmospheric carbon dioxide (CO<sub>2</sub>) concentration in 2007 was 383 ppm, 37 percent above the concentration at the start of the Industrial Revolution (about 280 ppm in 1750). The 2007 concentration was the highest known concentration during the last 650,000 years and probably during the last 20 million years. Results show that anthropogenic CO<sub>2</sub> emissions have been growing about four times faster since 2000 than the previous decade. The annual mean growth rate of atmospheric CO<sub>2</sub> was 2.2 ppm per year in 2007, up from 1.8 ppm in 2006.

#### 4.4.1.2 Greenhouse Gases

GHG are gases that trap heat in the atmosphere, analogous to the way a greenhouse retains heat. Common GHG include water vapor, CO<sub>2</sub>, methane (CH<sub>4</sub>), nitrous oxides (N<sub>2</sub>O), chlorofluorocarbons (CFCs), hydrofluorocarbons (HFCs), perfluorocarbons (PFCs), sulfur hexafluoride (SF<sub>6</sub>), O<sub>3</sub>, and aerosols. State law defines GHGs to include the following compounds: CO<sub>2</sub>, CH<sub>4</sub>, N<sub>2</sub>O, HFCs, PFCs, and SF<sub>6</sub> [Health and Safety Code (HSC), section 38505(g)]. Descriptions of these compounds and their sources are provided below.



Global atmospheric concentrations of CO<sub>2</sub>, CH<sub>4</sub> and N<sub>2</sub>O have increased markedly as a result of human activities since 1750 and now far exceed pre-industrial values determined from ice cores spanning many thousands of years.

Individual GHG have varying potential to contribute to global warming and atmospheric lifetimes. Table 4.4-1 identifies the global warming potentials (GWP) and atmospheric lifetimes of basic GHG. The CO<sub>2</sub> equivalent (CO<sub>2</sub>e) is a consistent methodology for comparing GHG emissions since it normalizes various GHG emissions to a consistent measure. The reference gas for GWP is CO<sub>2</sub>; therefore, CO<sub>2</sub> has a GWP of one. By comparison, the GWP of CH<sub>4</sub> is 21. This means that CH<sub>4</sub> has a greater global warming effect than CO<sub>2</sub> on a molecule per molecule basis. One million metric tons of CO<sub>2</sub> equivalent (MMT CO<sub>2</sub>e) is the mass emissions of an individual GHG multiplied by its GWP.

**Table 4.4-1. Global Warming Potentials and Atmospheric Lifetimes of Basic GHGs**

GHG	Formula	100-year global warming potential <sup>(1)</sup>	Atmospheric lifetime (yrs)
Carbon dioxide	CO <sub>2</sub>	1	Variable
Methane	CH <sub>4</sub>	21	12 (± 3)
Nitrous oxide	N <sub>2</sub> O	310	120
Sulphur hexafluoride	SF <sub>6</sub>	23,900	3,200

<sup>(1)</sup> The warming effects over a 100-year time frame relative to other GHG.

Source: USEPA 2006

### Carbon Dioxide (CO<sub>2</sub>)

CO<sub>2</sub> enters the atmosphere through the burning of fossil fuels (oil, natural gas, and coal), solid waste, trees and wood products, and also as a result of other chemical reactions such as through the manufacturing of cement. The largest source of CO<sub>2</sub> emissions globally is the combustion of fossil fuels such as coal, oil and gas in power plants, automobiles, industrial facilities and other sources. A number of specialized industrial production processes and product uses such as mineral production, metal production and the use of petroleum-based products can also lead to CO<sub>2</sub> emissions. CO<sub>2</sub> is also removed from the atmosphere (or "sequestered") when it is absorbed by plants as part of the biological carbon cycle. Natural sources of CO<sub>2</sub> occur within the carbon cycle where billions of tons of atmospheric CO<sub>2</sub> are removed from the atmosphere by oceans and growing plants, also known as 'sinks,' and are emitted back into the atmosphere annually through natural processes also known as 'sources.' When in balance, the total CO<sub>2</sub> emissions and removals from the entire carbon cycle are roughly equal. Since the Industrial Revolution in the 1700's, human activities, such as the burning of oil, coal and gas or deforestation, have increased CO<sub>2</sub> concentrations in the atmosphere. In 2005, global atmospheric concentrations of CO<sub>2</sub> were 35 percent higher than they were before the Industrial Revolution (EPA 2008).

### Methane (CH<sub>4</sub>)

CH<sub>4</sub> is emitted from a variety of both human-related and natural sources. Human-related activities include fossil fuel production, animal husbandry, rice cultivation, biomass burning, and waste management. CH<sub>4</sub> is emitted during the production and transport of coal, natural gas, and oil. CH<sub>4</sub> emissions also result from livestock and other agricultural practices and by the decay of organic waste in municipal solid waste landfills. It is estimated that 60 percent of global CH<sub>4</sub> emissions are related to human-related activities. Natural sources of CH<sub>4</sub> include wetlands, gas hydrates, permafrost, termites, oceans, freshwater bodies, non-wetland soils, and other sources such as wildfires. CH<sub>4</sub> emission levels from a source can vary significantly from one country or region to another, depending on many factors



such as climate, industrial and agricultural production characteristics, energy types and usage, and waste management practices. For example, temperature and moisture have a significant effect on the anaerobic digestion process, which is one of the key biological processes that cause CH<sub>4</sub> emissions in both human-related and natural sources. Also, the implementation of technologies to capture and utilize CH<sub>4</sub> from sources such as landfills, coal mines, and manure management systems affects the emission levels from these sources (EPA 2008).

### Nitrous Oxide (N<sub>2</sub>O)

N<sub>2</sub>O is produced by both natural and human-related sources. N<sub>2</sub>O is emitted during agricultural and industrial activities, as well as during combustion of fossil fuels and solid waste. Primary human-related sources of N<sub>2</sub>O are agricultural soil management, animal manure management, sewage treatment, mobile and stationary combustion of fossil fuel, adipic (fatty) acid production, and nitric acid production. N<sub>2</sub>O is also produced naturally from a wide variety of biological sources in soil and water, particularly microbial action in wet tropical forests. N<sub>2</sub>O emission levels from a source can vary significantly from one country or region to another, depending on many factors such as industrial and agricultural production characteristics, combustion technologies, waste management practices, and climate. For example, heavy utilization of synthetic nitrogen fertilizers in crop production typically results in significantly more N<sub>2</sub>O emissions from agricultural soils than that occurring from less intensive, low-tillage techniques. Also, the presence or absence of control devices on combustion sources, such as catalytic converters on automobiles, can have a significant effect on the level of N<sub>2</sub>O emissions from these types of sources (EPA 2009).

### Fluorinated Gases

HFCs, PFCs, and SF<sub>6</sub> are synthetic, powerful GHG that are emitted from a variety of industrial processes, including aluminum production, semiconductor manufacturing, electric power transmission, magnesium production and processing, and the production of Chlorodifluoromethane (HCFC-22), commonly used in air conditioning applications. Fluorinated gases are sometimes used as substitutes for O<sub>3</sub>-depleting substances, such as CFCs, Hydrochlorofluorocarbons (HCFCs), and halons. These gases are typically emitted in smaller quantities, but have higher GWP than other GHGs (EPA 2009).

#### 4.4.1.3 Global, National, Statewide, and Countywide GHG Inventories

In an effort to evaluate and reduce the potential adverse impact of climate change, international, State and local organizations have conducted GHG inventories to estimate their levels of GHG emissions and removals. The following summarizes the results of these global, national, State and countywide GHG inventories.

##### Global

Worldwide anthropogenic emissions of GHG in 2006 were approximately 49,000 million metric tons of CO<sub>2</sub>e, including ongoing emissions from industrial and agricultural sources and emissions from land use changes (i.e., deforestation, biomass decay) (Intergovernmental Panel on Climate Change [IPCC], 2007). CO<sub>2</sub> emissions from fossil fuel use accounts for 56.6 percent of the total emissions of 49,000 million metric tons CO<sub>2</sub>e (includes land use changes) and all CO<sub>2</sub> emissions are 76.7 percent of the total. CH<sub>4</sub> emissions account for 14.3 percent and N<sub>2</sub>O emissions for 7.9 percent of GHG (IPCC, 2007).

##### United States (U.S.)

The EPA publication, *Inventory of U.S. GHG Emissions and Sinks: 1990-2006*, provides a comprehensive emissions inventory of the nation's primary anthropogenic sources and sinks of GHG. In 2006, total U.S.

GHG emissions were 7,150.1 teragrams (Tg) or MMT CO<sub>2</sub>e. Overall, total U.S. emissions have risen by 20.2 percent from 1990 to 2007, while the U.S. gross domestic product has increased by 62 percent over the same period. Emissions rose from 2006 to 2007, increasing by 1.4 percent (99 MMT CO<sub>2</sub>e). The publication indicated that the following factors were primary contributors to this increase: 1) cooler winter and warmer summer conditions in 2007 than in 2006 increased the demand for heating fuels and contributed to the increase in the demand for electricity, 2) increased consumption of fossil fuels to generate electricity, and 3) a significant decrease (14.2 percent) in hydropower generation used to meet this demand (EPA 2009).

### California

The State of California is a substantial contributor of GHG as it is the second largest contributor in the U.S. and the 16th largest in the world. According to the CARB, California generated 484 MMT CO<sub>2</sub>e in 2004. Table 4.4-2 provides CARB data on California GHG emissions by sector in 2004. GHG emissions in California are mainly associated with fossil fuel consumption in the transportation sector (38 percent) with the industrial sector as the second-largest source (20 percent). Electricity production, from both in-State and out-of-state sources, agriculture, forestry, commercial, and residential activities comprise the balance of California's GHG emissions. Emissions of GHG were offset slightly in 2004 by the sequestration (intake) of carbon within forests, reducing the overall emissions by 4.7 MMT CO<sub>2</sub>e, resulting in net emissions of about 480 MMT CO<sub>2</sub>e.

**Table 4.4-2. State of California GHG Emissions by Sectors in 2004**

Sector	Total Emissions (MMT CO <sub>2</sub> e)	Percent of Total Emissions
Agriculture	27.9	6
Commercial	12.8	3
Electricity Generation	119.8	25
Forestry (excluding sinks)	0.2	<1
Industrial	96.2	20
Residential	29.1	6
Transportation	182.4	38
Miscellaneous <sup>(1)</sup>	16.0	3
<b>Total (Gross) Emissions</b>	<b>484.4</b>	<b>100</b>

<sup>(1)</sup> Unspecified fuel combustion which could not be attributed to an individual sector.

Notes: Percents may not total 100 due to rounding. Total gross emissions do not take into account the offset in emissions by carbon sequestration within forests.

Source: California Air Resources Board, California 1990 GHG Emissions Level and 2020 Emissions Limit, November 2007.

### San Diego County

In addition to the State of California GHG Inventory, a more specific regional GHG inventory was prepared by the University of San Diego School of Law Energy Policy Initiative Center in 2008. This San Diego County GHG Inventory (SDCGHGI) is a detailed inventory that takes into account the unique characteristics of the region in calculating emissions. A summary of the inventory results, by category and percent contribution for the year 2006, is provided in Table 4.4-3.

**Table 4.4-3. County of San Diego GHG Emissions by Category (2006)**

Sector	Total Emissions (MMT CO <sub>2</sub> e)	Percent of Total Emissions
On-Road Transportation	15.6	45
Electricity	8.5	25
Natural Gas Consumption	3	9
Civil Aviation	1.7	5
Industrial Processes & Products	1.6	5
Other Fuels / Other	1.1	3
Off-Road Equipment & Vehicles	1.3	3
Waste	0.7	2
Agriculture/Forestry/Land Use	0.4	2
Rail	0.3	1
Water-Borne Navigation	0.1	0.4
<b>Total</b>	<b>34.4</b>	<b>100</b>

Note: Numbers may not total to 100 percent due to rounding

Source: Energy Policy Initiative Center, University of San Diego School of Law, 2008.

Table 4.4-3 shows that in 2006, a total of 34.4 MMT CO<sub>2</sub>e was generated by the County of San Diego. This total includes both the incorporated and unincorporated areas. Not surprisingly, the largest contributor of GHG was from the on-road transportation category, which comprised 46 percent (16 MMT CO<sub>2</sub>e) of the total amount. The second highest contributor was the electricity category, which contributed approximately 9 MMT CO<sub>2</sub>e, or 25 percent of the total. Together the on-road transportation and electricity category comprised 70 percent of the total GHG emissions for the County of San Diego. The remaining amount was contributed by natural gas consumption, civil aviation, industrial processes, off-road transportation, waste, agriculture, rail, water-borne navigation, and other fuels.

#### 4.4.1.4 Regional Adverse Effects of Climate Change

The San Diego Foundation's Regional Focus 2050 Working Paper and Technical Assessment explored what the San Diego region would be like in the year 2050 if current climate change trends continue. The range of impacts presented in the Focus 2050 Working Paper and Technical Assessment are based on projections of climate change on the San Diego region using three climate models and two emissions scenarios drawn from those used by the IPCC. A summary of the potential adverse effects of Climate Change on the San Diego region, as projected in the Focus 2050 Working Paper and Technical Assessment, is provided below.

##### Climate

From observations and model historical simulations, it appears that temperatures began to warm more substantially in the 1970s. Some scientists attribute the change to the response to the effects of GHG accumulation, which began to increase substantially during this time. All of the climate model simulations exhibit warming across San Diego County, ranging from about 1.5 °F to 4.5 °F, with some differences in the timing and geographic distribution of the changes. The models predict greater warming in the summer than in winter, with surface air temperatures warming from 0.7 °F to more than 2 °F over that found in winter. Temperature changes for areas along the coast would be moderated by the influence of the Pacific Ocean, but interior areas, where the greatest population growth would occur, would experience the greatest temperature increase.

The months when San Diego County experiences the most extreme warm temperatures, currently mostly in July and August, will likely begin in June and extend until September. It is estimated that the inland portion of the County may have more than a threefold increase in hot days in 2050. Experts generally conclude that rainfall will continue to vary widely from year to year, leaving San Diego County highly vulnerable to drought.

### **Sea Level**

If current climate change trends continue, rising sea levels will have a major impact on the San Diego region's environment and economy, particularly in coastal areas. When high tide occurs during a large storm, particularly in El Niño winters, flooding will threaten homes, businesses, and hotels in low-lying coastal communities such as Imperial Beach, Coronado, Mission Beach, La Jolla Shores, Del Mar, and Oceanside. Flooding may also impact military, port and airport operations. High surf events will last for more hours, with waves causing even greater coastal erosion and related damage. Rising sea levels will wear away the foundations of sea bluffs, such as those found in Solana Beach or Torrey Pines and significantly change the County coastline. Sandy beaches and nearby wetlands serve as a barrier to protect coastline developments from high surf. As these areas shrink from more intense wave activity, there may be a greater need for beach sand replenishment. More seawalls and breakwaters may need to be built to defend homes and businesses from coastal flooding. In addition to being extremely costly, these structures will destroy beaches and wetlands that do not have space to shift inland. Wetlands and estuaries could be devastated, leaving beaches exposed to more pollutants that endanger human and marine life.

### **Water Supply**

The County Water Authority predicts an increase in water demand for San Diego County of around 24 percent, from 668,000 acre-feet/year (the 2001-2005 average) to about 830,000 acre-feet/year in 2030. About 70 percent of this demand is expected to come from imported sources. By 2050, the expected demand will increase to 915,000 acre-feet/year, which is an increase of 37 percent over the 2001-2005 period. By 2050, about 80 percent of the water supply is expected to be imported.

Drought years, which have historically increased water demand by another seven percent, might occur as much as 50 percent as often and be considerably drier. In drought years, parched soil soaks up more surface water and groundwater, increasing the need for imported and other water supplies. At the same time that the County demand for water would increase, climate change could shrink the Colorado River flow (a major source of imported water for the County) by 20 percent or more. A decline in the Sierra Nevada snowpack, aggravated by increased temperatures, could impact the water flow of many Northern California Rivers which serve as primary sources of water to the California Aqueduct, a major source of imported water for the County. San Diego's water supply plans are likely to be severely challenged by climate change. Even with plans in place to conserve, recycle, and augment our available water, it is estimated San Diego County could face an 18 percent shortfall in water supply by 2050 (San Diego Foundation 2008).

### **Wildfires**

Fire occurrence has steadily increased in southern California, in direct proportion to human population growth as most ignitions are caused by human activities. Most fires start during the summer, when coastal sage and chaparral vegetation have dried to a highly flammable state. Fires that start during the fall, however, burn many more acres because flames are intensified and spread by hot, dry Santa Ana winds. It is not entirely clear from climate change models how Santa Ana conditions will affect San Diego regional fire regimes in the future. Some models predict a decrease in the frequency and intensity of Santa Ana conditions while others predict an increase, particularly during the fire season. If Santa Ana conditions increase significantly earlier in the fire season, this shift could increase the incidence of massive Santa



Ana fires, because the winds will begin gusting during the time of year when most fires start. More frequent fires would threaten native plant species by not allowing sufficient recovery time before they burn again. This would allow weedy, non-native species, which thrive in post-fire conditions, to multiply. Weedy invaders dry out earlier in the year, catch fire more easily, and burn faster than native plants.

Additionally, if current trends continue, the San Diego region will experience a population increase, with more development and human activities in backcountry areas over the coming decades. As a result of climate change, we can expect higher spring temperatures, scorching summers, drier vegetation, and longer fire seasons. A simultaneous occurrence of all of these factors will increase the likelihood of more devastating firestorms similar to those that destroyed many homes and lives in the unincorporated County during 2003 and 2007.

### **Ecosystems**

San Diego County beaches, canyons, mountains and deserts support a vast variety of plants and animals, some of which are found nowhere else on the planet. This biodiversity is already under stress from human population growth and land use changes that have broken up and reduced species habitat into fragmented areas. The impacts of climate change will add to the pressures on habitats and the species that live in the County. As a result, the locations where the temperature, moisture, and other environmental conditions are suitable for a particular species will shift. Plant and animal species are generally able to adapt to shifting habitats, but under existing trends, climate change would occur so rapidly that ecological conditions may shift faster than species are able to follow. To survive, some animals and plants will have to move up to 95 miles over the next century to find new habitat or they will face extinction. Drought and unusually warm years have already led to growing insect populations, such as bark beetles, which have attacked and killed drought-stressed trees in San Diego County. With warmer weather, the County's forests will lose even more trees. Ecological changes will cascade, as the loss of one species will challenge the ability of other species up and down the same food chain to survive. Top predators like coyotes may be lost if habitat patches become too small or isolated, and that can lead to an increase in smaller predators that prey on native songbirds.

### **Public Health**

Increased heat, air pollution, wildfires, and infectious disease will cause illness and death in San Diego County, especially among the elderly, children, and the chronically ill. Californians experience the worst air quality in the nation, and San Diego is currently out of compliance with the federal O<sub>3</sub> standard. By 2050, more hot sunny days will increase O<sub>3</sub> air pollution levels, which can exacerbate asthma and other respiratory and cardiovascular diseases. Fire-related injuries and death are likely to increase as intense wildfires occur more frequently. Wildfires can also be a significant contributor to air pollution. Wildfire smoke contains numerous toxic and hazardous pollutants that are dangerous to breathe and can worsen lung disease and other respiratory conditions.

Warmer temperatures year-round could lead to growing mosquito populations, increasing the occurrence of West Nile Virus in the San Diego region. Hot weather could also bring tropical diseases such as malaria and dengue fever to the region for the first time. In coastal waters, conditions are likely to favor more frequent "red tides" or harmful algal blooms, which can harbor toxic bacteria and other diseases. In 2050, with an aging population and more residents living in areas with extreme-heat conditions and poor air quality, the San Diego region will face intensified public health concerns.

### **Energy Needs**

If current climate change trends continue, warmer temperatures and a growing population will translate into big challenges for the San Diego region's energy supply by 2050. The main impact will be higher

demand for electricity as a result of the greater need for summer cooling, especially in inland areas where both regional population growth and temperature increases will be highest. Hotter summers and more frequent, longer and intense heat waves will increase peak demand for electricity, which could result in blackouts and power outages without adequate planning.

## **4.4.2 REGULATORY FRAMEWORK**

### **4.4.2.1 International**

#### **United Nations Framework Convention on Climate Change (UNFCCC)**

On March 21, 1994, the U.S. joined a number of countries around the world in signing the United Nations Framework Convention on Climate Change (UNFCCC). Under the Convention, governments agreed to gather and share information on GHG emissions, national policies, and best practices; launch national strategies for addressing GHG emissions and adapting to expected impacts, including the provision of financial and technological support to developing countries; and cooperate in preparing for adaptation to the impacts of climate change.

#### **Intergovernmental Panel of Climate Change (IPCC)**

In 1988, the United Nations and the World Meteorological Organization established the IPCC to assess the scientific, technical, and socioeconomic information relevant to understanding the scientific basis for human-induced climate change, its potential impacts, and options for adaptation and mitigation. The most recent reports of the IPCC have emphasized the scientific consensus that real and measurable changes to the climate are occurring, that they are caused by human activity, and that significant adverse impacts on the environment, the economy, and human health and welfare are unavoidable.

#### **Kyoto Protocol**

The treaty known as the Kyoto Protocol was created as a result of UNFCC efforts. Countries signed the treaty to demonstrate their commitment to reducing GHG emissions or to engaging in emissions trading. More than 160 countries representing 55 percent of global emissions (not including the U.S.) are currently participating in the protocol. In 1998, former U.S. Vice President, Al Gore, symbolically signed the Protocol; however, in order for the Protocol to be formally ratified the U.S. Congress must adopt it, which has not yet occurred.

### **4.4.2.2 Federal**

#### **U.S. Environmental Protection Agency (EPA)**

The U.S. EPA is the federal agency responsible for setting and enforcing the federal ambient air quality standards for atmospheric pollutants. The EPA regulates emission sources that are under the exclusive authority of the federal government, such as aircraft, ships, and certain locomotives. The EPA also has jurisdiction over emission sources outside state waters (outer continental shelf), and establishes various emissions standards for vehicles sold in states other than California.

#### **Federal Clean Air Act (CAA)**

The Federal CAA, as amended, establishes air quality standards for several pollutants. These standards are divided into primary standards and secondary standards. Primary standards are designed to protect public health, and secondary standards are intended to protect public welfare from effects such as visibility reduction, soiling, nuisance, and other forms of damage. The CAA requires that regional plans

be prepared for non-attainment areas illustrating how the federal air quality standards could be met. The CARB approved the most recent revision of the SIP in 1994, and submitted it to the EPA. The SIP, approved by the EPA in 1996, consists of a list of ROG and NO<sub>x</sub> control measures for demonstrating future attainment of O<sub>3</sub> standards. The steps to achieve attainment will continue to require significant emissions reductions in both stationary and mobile sources.

#### 4.4.2.3 State

##### California Air Resources Board (CARB)

The CARB, a part of the Cal EPA is responsible for the coordination and administration of both federal and state air pollution control programs within California. In this capacity, the CARB conducts research, sets state ambient air quality standards, compiles emission inventories, develops suggested control measures, and provides oversight of local programs. The CARB establishes emissions standards for motor vehicles sold in California, consumer products (such as hairspray, aerosol paints, and barbecue lighter fluid), and various types of commercial equipment. It also sets fuel specifications to further reduce vehicular emissions. The CARB also has primary responsibility for the development of California's SIP, for which it works closely with the federal government and the local air districts.

##### Executive Order S-3-05

California Governor Arnold Schwarzenegger announced on June 1, 2005, through Executive Order S-3-05, the following GHG emission reduction targets: by 2010, reduce GHG emissions to 2000 levels; by 2020, reduce GHG emissions to 1990 levels; by 2050, reduce GHG emissions to 80 percent below 1990 levels. The first CCAT Report to the Governor in 2006 contained recommendations and strategies to help ensure the targets in Executive Order S-3-05 are met. A draft update to this report was released in March 2009. The update expands on the policy oriented 2006 report and provides new information and scientific findings regarding climate change impacts in California, including the development of new climate and sea-level projections and evaluation of climate change within the context of broader social changes, such as land-use changes and demographic shifts (CCAT 2009). The action items in the draft report focus on the preparation of the Climate Change Adaptation Strategy, required by Executive Order S-13-08, described below.

##### Assembly Bill (AB) 32, the California Global Warming Solutions Act of 2006

In September 2006, the California State Legislature adopted AB 32, the California Global Warming Solutions Act of 2006. AB 32 focuses on reducing GHG in California. GHG as defined under AB 32 include CO<sub>2</sub>, methane, N<sub>2</sub>O, hydrofluorocarbons, perfluorocarbons, and sulfur hexafluoride. Under AB 32, CARB has the primary responsibility for reducing GHG emissions and continues the CCAT to coordinate statewide efforts and promote strategies that can be undertaken by many other California agencies. AB 32 requires the CARB to adopt rules and regulations that would achieve GHG emissions equivalent to state-wide levels in 1990 by 2020.

In general, AB 32 directs the CARB to do the following:

- Make publicly available a list of discrete early action GHG emission reduction measures that can be implemented prior to the adoption of the statewide GHG limit and the measures required to achieve compliance with the statewide limit;
- Make publicly available a GHG inventory for the year 1990 and determine target levels for 2020;
- On or before January 1, 2010, adopt regulations to implement the early action GHG emission reduction measures;

- On or before January 1, 2011, adopt quantifiable, verifiable, and enforceable emission reduction measures by regulation that will achieve the statewide GHG emissions limit by 2020, to become operative on January 1, 2012, at the latest. The emission reduction measures may include direct emission reduction measures, alternative compliance mechanisms, and potential monetary and non-monetary incentives that reduce GHG emissions from any sources or categories of sources that CARB finds necessary to achieve the statewide GHG emissions limit; and
- Monitor compliance with and enforce any emission reduction measure adopted pursuant to AB 32.

Regarding the first two bullets, CARB has already made available a list of discrete early action GHG emission reduction measures. CARB has also published a staff report titled *California 1990 GHG Emissions Level and 2020 Emissions Limit* that determined the statewide levels of GHG emissions in 1990. CARB identified 427 MMT CO<sub>2</sub>e as the total statewide aggregated GHG 1990 emissions level and 2020 emissions limit. Additionally, in December, 2008, the CARB adopted the Climate Change Scoping Plan, which outlines the State's strategy to achieve the 2020 GHG limit. This Scoping Plan proposes a comprehensive set of actions designed to reduce overall greenhouse gas emissions in California, improve the environment, reduce dependence on oil, diversify energy sources, save energy, create new jobs, and enhance public health. The plan emphasizes a cap-and-trade program, but also includes the discrete early actions.

### Senate Bill 97

SB 97, enacted in 2007, amends the CEQA statute to clearly establish that GHG emissions and the effects of GHG emissions are appropriate subjects for CEQA analysis. It directs the California Office of Planning and Research (OPR) to develop draft State CEQA Guidelines "for the mitigation of GHG emissions or the effects of GHG emissions" by July 1, 2009 and directs the Resources Agency to certify and adopt the State CEQA Guidelines by January 1, 2010.

On April 13, 2009, OPR submitted the proposed amendments to the Secretary for Natural Resources. The Natural Resources Agency will conduct formal rulemaking in 2009, prior to certifying and adopting the amendments. The amendments provide regulatory guidance with respect to the analysis and mitigation of the potential effects of GHG emissions. OPR held two workshops to present the amendments and obtain input from the public. The workshops included an overview of the Preliminary Draft CEQA Guideline amendments, and the process for adopting the amendments by 2010.

### Executive Order S-13-08

On November 14, 2008, Governor Arnold Schwarzenegger issued Executive Order S-13-08, the Climate Adaptation and Sea Level Rise Planning Directive, which provides clear direction for how the State should plan for future climate impacts. S-13-08 calls for the implementation of a number of four key actions to reduce the vulnerability of California to climate change:

1. Initiate California's first statewide Climate Change Adaptation Strategy (CAS) that will assess the state's expected climate change impacts, identify where California is most vulnerable and recommend climate adaptation policies;
2. Request the National Academy of Science establish an expert panel to report on sea level rise impacts in California in order to inform State planning and development efforts;
3. Issue interim guidance to State agencies for how to plan for sea level rise in designated coastal and floodplain areas for new and existing projects; and



4. Initiate studies on critical infrastructure projects, and land-use policies, vulnerable to sea level rise.

The CAS is currently being developed by the California Resources Agency, in coordination with Cal EPA; the Climate Action Team; the Business, Transportation and Housing Agency; California Department of Public Health; and other key stakeholders. The CAS will synthesize the most up-to-date information on expected climate change impacts to California for policy-makers and resource managers, provide strategies to promote resiliency to these impacts and develop implementation plans for short and long term actions (California Climate Change Portal 2009). The Public Review Draft CAS was released on August 3, 2009.

### California CCR Title 24

Although it was not originally intended to reduce GHG, CCR Title 24 Part 6: *California's Energy Efficiency Standards for Residential and Nonresidential Buildings* were first established in 1978 in response to a legislative mandate to reduce California's energy consumption. The standards are updated periodically to allow consideration and possible incorporation of new energy efficiency technologies and methods. Energy efficient buildings require less electricity, and electricity production by fossil fuels results in GHG emissions. Therefore, increased energy efficiency results in decreased GHG emissions.

The Energy Commission adopted 2008 Standards on April 23, 2008 and the Building Standards Commission approved them for publication on September 11, 2008. The 2008 updates will become effective on August 1, 2009. The Energy Commission adopted the 2008 changes to the Building Energy Efficiency Standards for a the following reasons: 1) To provide California with an adequate, reasonably priced, and environmentally sound supply of energy; 2) To respond to AB 32, the Global Warming Solutions Act of 2006, which mandates that California must reduce its GHG emissions to 1990 levels by 2020; 3) To pursue California energy policy that energy efficiency is the resource of first choice for meeting California's energy needs; 4) To act on the findings of California's Integrated Energy Policy Report (IEPR) that Standards are the most cost effective means to achieve energy efficiency, expects the Building Energy Efficiency Standards to continue to be upgraded over time to reduce electricity and peak demand, and recognizes the role of the Standards in reducing energy related to meeting California's water needs and in reducing GHG emissions; 5) To meet the West Coast Governors' Global Warming Initiative commitment to include aggressive energy efficiency measures into updates of state building codes; and 6) To meet the Executive Order in the Green Building Initiative to improve the energy efficiency of nonresidential buildings through aggressive standards.

### 4.4.3 IMPACT SIGNIFICANCE CRITERIA

Currently no State or regional regulatory agency has formally adopted or widely agreed upon thresholds of significance for GHG emissions. State CEQA Guidelines Section 15064.7 states that "each public agency is encouraged to develop and publish thresholds of significance that the agency uses in the determination of the significance of environmental effects." This provides justification for lead agencies to determine their own climate change thresholds. The Association of Environmental Professionals (AEP) recommends that "if a Lead Agency chooses to address GCC [Global Climate Change] in a [CEQA] document, it should be addressed in the context of a cumulative (versus project-specific) impact."

In 2006, California Governor Arnold Schwarzenegger signed the Global Warming Solutions Act (AB 32), establishing statutory limits on GHG emissions in California. AB 32 seeks to reduce statewide emissions to 1990 levels by the year 2020. While AB 32 does not specify reduction targets for specific sectors or jurisdictions, the EPIC SDCGHGI study (2008) calculated theoretical reduction targets for San Diego

County. To meet the targets established by AB 32, the San Diego region would have to reduce its projected business as usual (BAU) 2020 emissions by 14 MMT or 33 percent.

For the purposes of this PEIR, implementation of the DVSP Update would result in a significant impact if it would generate GHG emissions, either directly or indirectly, that would conflict with any applicable plan, policy, or regulation of an agency adopted for the purpose of reducing the emissions of GHG; including AB 32.

#### 4.4.4 METHOD OF ANALYSIS

The section below gives full consideration to the development of the SPA and acknowledges the physical changes to the existing setting that would occur from implementation of the proposed project. Impacts to climate change were determined based on the proposed project's ability to meet the emissions reductions goal of AB 32. GHG emissions under BAU conditions were quantified using the URBEMIS model, guidelines from the California Energy Commission (CEC), and the State Workbook: Methodologies for Estimating GHG Emissions (EPA 1998). Reductions in BAU conditions were determined by analyzing the project's consistency with GHG emission reduction strategies from CAPCOA, the California Attorney General's Office, and the CCAT.

#### 4.4.5 PROJECT IMPACTS AND MITIGATION

##### 4.4.5.1 Issue 1 – Direct and Indirect Generation of GHG

*Would implementation of the DVSP Update generate GHG emissions, either directly or indirectly, that would conflict with any applicable plan, policy, or regulation of an agency adopted for the purpose of reducing the emissions of GHG?*

##### IMPACT ANALYSIS

Section 15064.4 of the draft State CEQA Guidelines provides direction for lead agencies for assessing the significance of impacts of GHG emissions. A lead agency should make a good-faith effort, based on available information, to describe, calculate or estimate the amount of GHG emissions associated with a project, including emissions associated with energy consumption and vehicular traffic. Because the methodologies for performing this assessment are anticipated to evolve over time, a lead agency shall have discretion to determine, in the context of a particular project, whether to:

1. Use a model or methodology to quantify GHG emissions associated with a project and which of any available model or methodology to use. The lead agency may include a qualitative discussion or analysis regarding the limitations of the particular model or methodology selected for use.
2. Rely on qualitative or other performance based standards for estimating the significance of GHG emissions.

CEQA gives a lead agency the discretion to determine the significance of environmental impacts identified in its CEQA documents.

The OPR issued a technical advisory in June 2008 entitled "CEQA and Climate Change: Addressing Climate Change through CEQA Review," which provides a recommended approach for conducting climate change analysis for projects that generate GHG. The OPR recommends that CEQA review include a description of baseline conditions, an estimation of a project's GHG emissions during

construction and operation, measures incorporated to reduce GHG emissions, and a determination of significance.

An inventory of the three most relevant GHG emissions (i.e., CO<sub>2</sub>, CH<sub>4</sub>, and N<sub>2</sub>O) is presented below. These gases are the most relevant to GHG emissions because they are the most likely gases to be emitted from development occurring under the DVSP Update. The emissions of the individual gases were estimated and then converted to their CO<sub>2</sub>e in metric tons using the individually determined GWP of each gas. The analysis methodology used for the inventory assumes business as usual scenario that does not take into account the effect that the emissions reducing policies within the DVSP Update would have on the total emissions generated within the SPA.

### Construction Emissions

Implementation of the DVSP Update would emit GHG during construction from the operation of construction equipment and from worker and building supply vendor vehicles. Construction emissions are given on an annual basis, as shown in Table 4.4-4. Construction is based on the assumptions listed in Section 4.2, Air Quality. Buildout of the DVSP Update is anticipated to be completed by 2030. Therefore, it was assumed that the project construction would occur over a 20-year period, between 2010 and 2030, with an equal amount of development occurring each year. The total worst-case development in the SPA would be 4,472,854 SF, consisting of 2,624,854 SF of non-residential development, and 1,675 residential units, assumed to be 1,100 SF each, the maximum unit size. This total includes existing development that would not be redeveloped; therefore, it represents a conservative worst-case scenario approach and actual emissions are expected to be lower than model results. Using this approach, it is assumed that 223,643 SF would be constructed every year for 20 years, between 2010 and 2030. Approximately 50 percent of existing development was assumed to be demolished because several large areas of the SPA would not be expected to be redeveloped, include Vista Village, historic downtown area, Wildwood and Civic Center Parks, and some existing residential and commercial development. Model defaults were used to estimate emissions associated with construction equipment used during each year.

**Table 4.4-4. Estimated GHG Emissions from Project Construction**

	Development	CO <sub>2</sub> e (metric tons)
Annual	223,643 SF	479
Total Buildout	4,472,854 SF	9,580

Source: URBEMIS 2007 (output data is provided in Appendix C)

### DVSP Update GHG Reduction Measures for Construction

The CCAT, established by Executive Order S-3-05, has recommended strategies to reduce GHG emissions at a statewide level to meet the goals of the executive order. In addition, the 2008 CAPCOA report, "CEQA and Climate Change," includes numerous GHG reducing measures. The California Attorney General's Office has also published a list of recommendations of GHG reducing measures.

The DVSP Update includes a GHG-reducing feature that would be incorporated during construction of individual projects. General Operating Standard D, Exhaust Emissions, in Section 3.0 of the DVSP Update, Area-wide Design and Development Plan, requires that construction-related activities minimize exhaust emissions by maintaining equipment in good operating condition and in proper tune in compliance with manufacturer's specifications. In addition, the implementation of *Air-2* and *Air-5*, included in Section 4.2, Air Quality, during project construction to reduce criteria pollutants would also

reduce emissions of GHG by reducing equipment idling time, using electric or diesel powered machines during construction, and diversion of construction waste from landfills. A comparison of the consistency of the DVSP Update with the recommended measures is listed in Table 4.4-5.

**Table 4.4-5. GHG Emission Reduction Measures During Project Construction and DVSP Update Consistency**

GHG Emissions Reduction Strategies	DVSP Update Consistency
<b>CAPCOA MM C-1:</b> Use ARB-certified diesel construction equipment.	Implementation of mitigation measure <i>Air-2</i> would ensure that the DVSP Update is consistent with this GHG reduction measure.  <b><i>Air-2</i> Construction Ozone Precursor Control Measures.</b> The following measures shall be implemented throughout construction to minimize emissions of O <sub>3</sub> precursors (NO <sub>x</sub> and VOCs): <ul style="list-style-type: none"> <li>• Turn off all diesel-powered vehicles and gasoline-powered equipment when not in use for more than five minutes.</li> <li>• Use electric or natural gas-powered construction equipment in lieu of gasoline or diesel-powered engines, where feasible.</li> <li>• Require 10 percent of construction fleet to use any combination of diesel catalytic converters, diesel oxidation catalysts, diesel particulate filters, and/or CARB-certified Tier III equipment or better.</li> <li>• Support and encourage ridesharing and transit incentives for the construction crew.</li> </ul>
<b>CAPCOA MM C-2:</b> Use alternative fuel types for construction equipment.	See discussion of mitigation measure <i>Air-2</i> above.
<b>CAPCOA MM C-3:</b> Use locally-made building materials for construction of the project and associated infrastructure.	Refer to the Green Building and Sustainable Design guidelines in Section 3.8.1, Area-wide Guidelines. Implementation of the DVSP Update would encourage the use of locally available building materials, such as concrete, stucco, and interior finishes, where feasible.
<b>CAPCOA MM C-4:</b> Recycle/reuse demolished construction material.	Refer to the Green Building and Sustainable Design guidelines in Section 3.8.1, Area-wide Guidelines. Implementation of the DVSP Update would require future development projects to establish a construction management plan with the local waste hauler that diverts a minimum of 50 percent of construction, demolition, and site clearing waste.
<b>CCAT Standard, Diesel Anti-idling:</b> Post signs that restrict idling and provide education for truck drivers regarding diesel health impacts.	See discussion of mitigation measure <i>Air-2</i> above.
<b>California Attorney General Strategy, Diesel Anti-Idling:</b> Set specific limits on idling time for commercial vehicles, including delivery vehicles.	See discussion of mitigation measure <i>Air-2</i> above.
<b>California Attorney General Strategy, Solid Waste Reduction Strategy:</b> Project construction shall require reuse and recycling of construction and demolition waste.	Refer to the Green Building and Sustainable Design guidelines in Section 3.8.1, Area-wide Guidelines. Implementation of the DVSP Update would require future development projects to establish a construction management plan with the local waste hauler that diverts a minimum of 50 percent of construction, demolition, and site clearing waste.



CO<sub>2</sub>e emissions associated with the construction of development accommodated by the DVSP Update would contribute to the regional greenhouse gas inventory. Upon buildout of the DVSP Update, GHG emissions associated with project construction would cease. The measures identified in Table 4.4-5 would reduce emissions of CO<sub>2</sub>e during construction to the extent feasible. Appendix B of the CAPCOA report lists estimated emission reductions associated with general GHG-reducing measures. Although the DVSP Update includes all measures identified in the CAPCOA report for reducing GHG during construction, no quantifiable reduction is available for these measures. Since the DVSP Update includes guidelines that are consistent with strategies recommended by the CCAT, CAPCOA, and the California Attorney General, and GHG emissions would cease upon completion of construction, implementation of the DVSP Update would not generate GHG emissions during construction, either directly or indirectly, that would conflict with any applicable plan, policy, or regulation of an agency adopted for the purpose of reducing the emissions of GHG. The impact associated with GHG emissions during project construction would be less than significant.

### ***Operational Emissions***

Implementation of the DVSP Update would generate GHG through the operation of new residential, commercial, retail, and municipal land uses. Operational GHG emissions from the projects within the SPA would include direct sources such as motor vehicles, natural gas consumption, solid waste handling/treatment, and indirect sources such as electricity generation and water use. Projected annual emissions of GHGs associated with implementation of the DVSP Update are the net increase between estimated annual emissions from existing development, and total annual emissions of full build-out of the DVSP Update (2030). Existing and projected annual emissions are summarized in Table 4.14-6.

**Table 4.4-6. Estimated Annual Operational GHG Emissions at Project Buildout (2030)**

Source of Emissions	Existing Development (2009)		DVSP Update Buildout (2030)		Net Increase Associated with DVSP Update Buildout	
	CO <sub>2</sub> e (metric tons)	Percent of Total Emissions	CO <sub>2</sub> e (metric tons)	Percent of Total Emissions	CO <sub>2</sub> e (metric tons)	Percent of Total Emissions
Vehicular Use	40,406	75%	158,061	60%	117,655	57%
Electricity Use	4,103	8%	28,757	11%	24,654	12%
Natural Gas Use	6,176	11%	48,688	19%	42,512	21%
Solid Waste	2,756	5%	22,196	8%	19,440	10%
Water Use	528	1%	3,820	1%	3,292	2%
Annual Total	53,969	100%	261,522	100%	207,553	100%

Source: URBEMIS 2007 (Version 9.2.2). California Climate Action Registry General Reporting Protocol, Reporting Entity-Wide GHG Emissions, Version 2.2, March 2007; EPA, 1998; Navigant Consulting, 2006

**Vehicle Use.** At DVSP Update buildout, the largest source of GHG emissions would be motor vehicle use. CO<sub>2</sub> emissions, the primary GHG associated with mobile sources, are directly related to the quantity of fuel consumed. Two important determinants of transportation-related GHG emissions are vehicle miles traveled (VMT) and vehicle fuel efficiency. VMT in California has steadily increased over the last quarter-century (CEC 2006e) while fuel efficiency has remained level.

The vehicular GHG emissions from operation of the DVSP Update at full build-out (2030) were estimated using URBEMIS 2007. Vehicular emissions are based on a net increase of about 322 million annual VMT generated by the DVSP over existing uses. Traffic data is based VMT calculated using URBEMIS 2007 for the existing and proposed land uses. Implementation of the DVSP Update would

generate an additional 117,665 metric tons of CO<sub>2</sub>e per year from vehicular sources. Vehicular use would generate about 60 percent of total GHG emissions generated from implementation of the DVSP Update.

**Electricity Use.** Projects that would result in an increase in electricity consumption also result in an indirect increase in GHG emissions. The generation of electricity through the combustion of fossil fuels typically yields CO<sub>2</sub> and, to a much smaller extent, CH<sub>4</sub> and N<sub>2</sub>O. The electricity emissions associated with the DVSP Update were estimated by applying emission factors to the estimated electricity use, which is expected to result in a net increase of approximately 74.7 million kWh per year over existing uses. Annual increase in GHG emissions from electricity generation is estimated to be 24,654 metric tons CO<sub>2</sub>e, approximately 10 percent of total DVSP Update GHG emissions.

**Natural Gas Use.** The DVSP Update would generate direct emissions from on-site sources such as natural gas usage and, to a much smaller extent, landscaping equipment. The DVSP Update is expected to result in a net increase of approximately eight million therms per year over existing uses. Emissions from natural gas usage were calculated using GHG generation factors found within the CCAR protocol. Increased annual GHG emissions associated with natural gas usage are estimated to be 42,512 metric tons CO<sub>2</sub>e per year, approximately 20 percent of total DVSP Update GHG emissions.

**Solid Waste.** Solid waste generated by the DVSP Update would also contribute to GHG emissions. Treatment and disposal of municipal, manufacturing, and other solid waste produces significant amounts of CH<sub>4</sub>. GHG emissions from solid waste generated by the project were estimated based on formulas provided in the State Workbook: Methodologies for Estimating GHG Emissions (EPA 1998), which provides generation factors of GHG from degradation and outgassing of landfill material. Landfill gas is approximately 50 percent CH<sub>4</sub> and 50 percent CO<sub>2</sub>. According to the Workbook, N<sub>2</sub>O emissions from landfills are considered negligible. Buildout DVSP Update buildout (2030) would result in an estimated increase in annual emissions of GHG from solid waste would of 19,440 metric tons CO<sub>2</sub>e per year, approximately 10 percent of total DVSP Update GHG emissions. It is important to note that this estimate is conservative and does not include any reductions from waste minimization practices and recycling/reuse policies that are commonly employed to reduce solid waste. Also, landfill gas recovery has become more common as a measure to reduce CH<sub>4</sub> emissions from solid waste disposal sites.

**Water Use.** Water use can also be an indirect source of GHG emissions due to the energy required to provide, treat, and distribute water to southern California (and specifically the SPA). In 2006, the CEC published a report (Navigant 2006) that estimated the magnitude and intensity of water-related energy consumption by segment of the water-use cycle. These estimates were used to develop a representative evaluation of the amount of energy deemed embedded in a unit of water, by virtue of the amount of energy consumed in collecting, extracting, conveying, treating, and distributing the water to end users and then by treating and disposing of the wastewater. The CEC estimates distinguish between indoor and outdoor water use, and whether the end user is in Northern or southern California.

Using these estimates, an estimation of energy use related to the net increase in water demand associated with the DVSP Update was calculated, and then the CCAR protocols for GHG emissions were used to predict GHG emissions. For implementation of the DVSP Update, it is estimated that water demand would increase by about 747.8 million gallons per year over existing uses. This increase in water demand would result in indirectly emitting about 3,292 additional metric tons of CO<sub>2</sub>e, approximately two percent of total DVSP Update GHG emissions.

**Other GHG Emissions.** O<sub>3</sub> is also a GHG; however, unlike the other GHG, O<sub>3</sub> in the troposphere is relatively short lived and therefore is not global in nature. According to CARB, it is difficult to make an accurate determination of the contribution of O<sub>3</sub> precursors (NO<sub>x</sub> and VOCs) to global warming (CARB 2004). Therefore, it is assumed that emissions of O<sub>3</sub> precursors associated with implementation of the

DVSP Update would not significantly contribute to climate change. At present, there is a federal ban on CFCs; therefore, it is assumed the project would not generate emissions of these GHG. Implementation of the DVSP Update may emit a small amount of HFC emissions from leakage and service of refrigeration and air conditioning equipment and from disposal at the end of the life of the equipment. However, the details regarding refrigerants to be used at future development and the capacity of these are unknown at this time. PFCs and sulfur hexafluoride are typically used in industrial applications. Some light industrial uses may be accommodated under the DVSP Update; however, details regarding PFC and sulfur hexafluoride use is not available at this time and is expected to be minimal because industrial uses would be light manufacturing or processing uses rather than heavy industrial. Therefore, it is not anticipated that implementation of the DVSP Update would contribute significant emissions of these additional GHG.

As shown in Table 4.4-6, emissions of GHG from operational sources are estimated to increase 207,553 metric tons of CO<sub>2</sub>e per year over existing conditions at full buildout of the DVSP Update (2030). The largest contributor of GHG is a result of vehicular use, which contributes over half (57%) of the overall total increase in emissions. The second largest contributor of emissions associated with DVSP Update implementation is natural gas use (21%), followed by electricity use (12%), and solid waste generation (10%). Water use contributes only two percent of emissions associated with DVSP Update implementation, the lowest percentage of emissions. Estimates do not take into account any GHG reducing measures incorporated by the project, otherwise referred to as BAU.

Based on operational GHG emissions estimates, it is not anticipated that the emissions from the DVSP Update alone will substantially add to the Statewide inventory of GHG emissions. The net increase in annual GHG emissions from the project (207,553 metric tons), in relation to California's current GHG emissions (484 million metric tons, according to the ARB's most recent 2004 inventory), would be 0.04 percent at buildout.

### **DVSP Update Incorporation of GHG Reduction Measures for Operation**

The DVSP Update land use plan and area-wide Design and Development guidelines would implement a number of GHG-reducing features that would be incorporated during planning and operation of individual projects. In addition, the implementation of mitigation measures listed in Section 4.2, Air Quality; Section 4.14, Traffic; and those required in this section would also reduce emissions of GHG by reducing emissions from construction and operation of land uses accommodated by the DVSP Update and by reducing congestion at intersections associated with DVSP Update implementation. The recommended measures that would be included in implementation of the DVSP Update are listed in Table 4.4-7.

As shown in Table 4.4-7, the project complies with many feasible and applicable measures recommended by the CCAT, California Attorney General, and CAPCOA. Implementation of many measures cannot be implemented at a programmatic level, such as requiring energy efficient appliances or instituting flexible work hour programs. Therefore, these measures are not considered applicable to the DVSP Update. Incorporation of the measures in Table 4.4-7 would reduce overall GHG from the DVSP Update. GHG provides some basic estimates of greenhouse gas emission reductions that may be expected with incorporation of measures listed in Appendix B, Table 16 of the January 2008 report, *CEQA and Climate Change*. It should be noted that reduction estimates vary widely and not all recommended measures have reduction estimates associated with them. Further reductions may be expected through incorporation of the measures recommended by the CCAT and California Attorney General, though the extent of the reduction is not readily quantifiable at this time. Table 4.4-8 provides the CAPCOA estimates for reductions that may be expected for each project-incorporated CAPCOA measure and Table 4.4-9 provides the approximate reduction in project-related GHG emissions associated with implementation of these measures.

Table 4.4-7. Recommended GHG Reduction Measures and DVSP Update Consistency

Recommended GHG Reduction Measure	DVSP Update Consistency
<b>CAPCOA Measures<sup>(1)</sup></b>	
<b>Bike Parking</b>	
Nonresidential projects provide plentiful short- and long-term bicycle parking facilities to meet peak season maximum demand (e.g., one bike rack space per 20 vehicle/employee parking spaces).	<p>Implementation of mitigation measure <i>Air-5</i> would ensure that the DVSP Update is consistent with this GHG reduction measure.</p> <p><i>Air-5</i> On-Road Traffic Reduction Measures. Prior to issuance of a building permit for any future project under the DVSP Update, the project applicant shall identify and submit building plans that identify the following design features to reduce operational emissions associated with vehicular traffic:</p> <ul style="list-style-type: none"> <li>• Projects within one-quarter mile of a transit facility, including Sprinter Stations and bus stops, shall enhance existing or construct new pedestrian and bicycle facilities to provide safe and efficient access to the transit services.</li> <li>• Projects located within one-half mile of an existing/planned Class I or Class II bike lane shall include a comparable network that connects the project uses to the existing off-site facility. Project design shall include a designated bicycle route connecting all units, on-site bicycle parking facilities, off-site bicycle facilities, site entrances, and primary building entrances to existing Class I or Class II bike lane(s) within one half mile, as feasible.</li> <li>• Nonresidential projects shall provide "end-of-trip" facilities including showers, lockers, and changing space. At a minimum, project will provide four clothes lockers and one shower provided for every 80 employee parking spaces, including separate facilities for each gender for projects with 160 or more employee parking spaces.</li> <li>• Bicycle racks that are accessible from the street and the pedestrian routes. At a minimum, one bike rack space shall be provided per 20 vehicle parking spaces.</li> <li>• Provide a parking lot design that includes clearly marked and shaded pedestrian pathways between transit facilities and building entrances.</li> </ul>
<b>End of Trip Facilities</b>	
Nonresidential projects provide "end-of-trip" facilities including showers, lockers, and changing space (e.g., four clothes lockers and one shower provided for every 80 employee parking spaces, separate facilities for each gender for projects with 160 or more employee parking spaces).	Refer to discussion of mitigation measure <i>Air-5</i> above.
<b>Bike Parking at Multi-Unit Residential</b>	
Long-term bicycle parking is provided at apartment complexes or condominiums without garages (e.g., one long-term bicycle parking space for each unit without a garage). Long-term facilities shall consist of one of the following: a bicycle locker, a locked room with standard racks and access limited to bicyclists only, or a standard rack in a location that is staffed and/or monitored by video surveillance 24 hours per day.	Refer to discussion of mitigation measure <i>Air-5</i> above.



Table 4.4-7. Continued

Recommended GHG Reduction Measure	DVSP Update Consistency
<b>Proximity to Bike Path/Bike Lanes</b>	
<p>Entire project is located within one-half mile of an existing/planned Class I or Class II bike lane and project design includes a comparable network that connects the project uses to the existing off-site facility. Project design includes a designated bicycle route connecting all units, on-site bicycle parking facilities, off-site bicycle facilities, site entrances, and primary building entrances to existing Class I or Class II bike lane(s) within one half mile. Bicycle route connects to all streets contiguous with project site. Bicycle route has minimum conflicts with automobile parking and circulation facilities. All streets internal to the project wider than 75 feet have Class II bicycle lanes on both sides.</p>	<p>Refer to discussion of mitigation measure <i>Air-5</i> above.</p>
<b>Pedestrian Network</b>	
<p>The project provides a pedestrian access network that internally links all uses and connects to all existing/planned external streets and pedestrian facilities contiguous with the project site. Project design includes a designated pedestrian route interconnecting all internal uses, site entrances, primary building entrances, public facilities, and adjacent uses to existing external pedestrian facilities and streets. Route has minimal conflict with parking and automobile circulation facilities. Streets (with the exception of alleys) within the project have sidewalks on both sides. All sidewalks internal and adjacent to project site are minimum of five feet wide. All sidewalks feature vertical curbs.</p> <p>Pedestrian facilities and improvements such as grade separation, wider sidewalks, and traffic calming are implemented wherever feasible to minimize pedestrian barriers. All site entrances provide pedestrian access.</p>	<p>The following objectives and guidelines identified in the DVSP Update would ensure that the project is consistent with this GHG reduction measure.</p> <p>Section 3.8.1, Area-wide Guidelines</p> <ul style="list-style-type: none"> <li>• General Design Objectives <ul style="list-style-type: none"> <li>– Areas near transit centers and along transit routes should be enhanced with pedestrian and bicycle facilities and landscaping.</li> <li>– A minimum 5-foot wide sidewalk shall be provided along the full length of a building's façade. For multi-tenant buildings, a minimum 8-foot wide sidewalk shall be provided along the full length of the building's façade</li> </ul> </li> </ul> <p>Section 3.8.2, General Commercial</p> <ul style="list-style-type: none"> <li>• Building siting and design should encourage pedestrian activity.</li> <li>• Development should provide site amenities and other design features that encourage pedestrian use.</li> <li>• Site access and internal circulation should promote safety, efficiency, convenience, and minimize conflict between vehicles and pedestrians.</li> <li>• Pedestrian activity areas should provide site amenities such as seating areas, public art, water features and other appropriate amenities that encourage pedestrian utilization.</li> <li>• Pedestrian activity areas should provide a sufficient level of shade for users. Landscaping, canopies or other methods of providing shaded areas are strongly encouraged.</li> <li>• Access to bus stops should be integrated into the pedestrian circulation network</li> <li>• Bicycle racks should be provided and be easily accessible from the street and pedestrian routes.</li> <li>• Unobstructed visibility and clear delineations between pedestrian paths and vehicular travel aisles should be provided. Use of landscaping, walkways, and decorative hardscape to delineate pedestrian circulation is encouraged.</li> <li>• Safe, convenient pedestrian links should be designed between parking areas and businesses.</li> </ul>

Table 4.4-7. Continued

Recommended GHG Reduction Measure	DVSP Update Consistency
	<p>Section 3.8.4, Residential Design Guidelines</p> <ul style="list-style-type: none"> <li>Access to bus stops should be integrated into the pedestrian circulation network.</li> <li>Bicycle racks should be provided and be easily accessible from the street and the pedestrian routes.</li> </ul> <p>Section 3.8.5, Public Space Guidelines</p> <ul style="list-style-type: none"> <li>Clearly defined pedestrian walkways or paths should be provided from the bus stop to adjacent commercial or residential areas.</li> </ul>
<b>Bus Shelter for Existing/Planned Transit Service</b>	
<p>Bus or streetcar service provides headways of one hour or less for stops within one-quarter mile; project provides safe and convenient bicycle/pedestrian access to transit stop(s) and provides essential transit stop improvements (i.e., shelters, route information, benches, and lighting).</p>	<p>The Vista Transit Center, located in the SPA, provides bus and Sprinter rail service. Another Sprinter Station is located on Escondido Avenue and bus stops are located throughout the SPA. Refer to Pedestrian Network, above, regarding the pedestrian network. Mitigation measure <i>Air-5</i> and the following guideline pertain to transit stops and bicycle access:</p> <p>Section 3.8.5, Public Space Guidelines</p> <ul style="list-style-type: none"> <li>Bus shelters should be as transparent as possible from the ground level up in all directions to increase unobstructed visibility.</li> </ul> <p>Therefore, the DVSP Update would be consistent with this GHG reduction measure.</p>
<b>Traffic Calming</b>	
<p>Project design includes pedestrian/bicycle safety and traffic calming measures in excess of jurisdiction requirements. Roadways are designed to reduce motor vehicle speeds and encourage pedestrian and bicycle trips by featuring traffic calming features. All sidewalks internal and adjacent to project site are minimum of five feet wide. All sidewalks feature vertical curbs. Intersections internal and adjacent to the project feature one or more of the following pedestrian safety/traffic calming design techniques: marked crosswalks, count-down signal timers, curb extensions, speed tables, raised crosswalks, raised intersections, median islands, tight corner radii, and roundabouts or mini-circles. Streets internal and adjacent to the project feature pedestrian safety/traffic calming measures such as on-street parking, planter strips with street trees, and chicanes/chokers (variations in road width to discourage high-speed travel).</p>	<p>Refer to T-5, Pedestrian Network, and Bus Shelter for Existing Planned Transit Service regarding the pedestrian/bicycle networks. As noted, sidewalks would be a minimum of 5-feet wide. On-street parking is expected to be accommodated throughout the SPA. Therefore, the DVSP Update would be consistent with this GHG reduction measure.</p>
<b>Parking Reduction Beyond Code/Shared Parking</b>	
<p>Provide parking reduction less than code. This measure can be readily implemented through a shared parking strategy, wherein parking is utilized jointly among different land uses, buildings, and facilities in an area that experience peak parking needs at different times of day and day of the week.</p>	<p>Section 3.9-f of the DVSP Update, the Parking Plan, states that parking will be primarily served through a shared parking approach. The following DVSP Update standards encouraged the shared parking approach.</p> <p>Section 3.5.2, General Operating Standards.</p> <ul style="list-style-type: none"> <li>Joint use of parking. The utilization of shared parking facilities within the Specific Plan are is strongly encouraged. Shared parking standards are based on the assumption that patrons will use a single parking space for</li> </ul>

Table 4.4-7. Continued

Recommended GHG Reduction Measure	DVSP Update Consistency
	<p>more than one destination in certain locations within the SPA and that one parking space will be open and available for short-term</p> <ul style="list-style-type: none"> <li>• Parking to serve different uses which may have different peak hours.</li> </ul> <p>Therefore, the DVSP Update would be consistent with this GHG reduction measure.</p>
<b>Pedestrian Pathway Through Parking</b>	
<p>Provide a parking lot design that includes clearly marked and shaded pedestrian pathways between transit facilities and building entrances.</p>	<p>The following guidelines identified in the DVSP Update would ensure that the project is consistent with this GHG reduction measure.</p> <p>Section 3.8.2, General Commercial</p> <ul style="list-style-type: none"> <li>• Site access and internal circulation should promote safety, efficiency, convenience and minimize conflict between vehicles and pedestrians</li> <li>• Safe, convenient pedestrian links should be designed between parking areas and businesses</li> <li>• Unobstructed visibility and clear delineations between pedestrian paths and vehicular travel aisles should be provided. Use of landscaping, walkways, and decorative hardscape to delineate pedestrian circulation is encouraged</li> </ul> <p>Section 3.8.3-H, Places of Assembly</p> <ul style="list-style-type: none"> <li>• Parking should be located in close proximity to the primary entrance. A safe pedestrian path should be provided from all parking areas to the main entrance</li> </ul> <p>Section 3.8.5, Public Space Guidelines</p> <ul style="list-style-type: none"> <li>• Clearly defined pedestrian walkways or paths should be provided from the bus stop to adjacent commercial or residential areas</li> </ul>
<b>Office/Mixed Use Density</b>	
<p>Project provides high density office or mixed-use proximate to transit. Project must provide safe and convenient pedestrian and bicycle access to all transit stops within one-quarter mile.</p>	<p>Two Sprinter railroad stops are located in the SPA, as well as bus stops throughout the SPA. The DVSP Update would accommodate compact, mixed-use development, including office space, in close proximity to these transit facilities. Refer to T-5, Pedestrian Network, and Bus Shelter for Existing Planned Transit Service regarding the pedestrian/bicycle networks. Therefore, the DVSP Update would be consistent with this GHG reduction measure.</p>
<b>Orientation to Existing/Planned Transit, Bikeway, or Pedestrian Corridor</b>	
<p>Project is oriented towards existing transit, bicycle, or pedestrian corridor. Setback distance between project and existing or planned adjacent uses is minimized or nonexistent. Setback distance between different buildings on project site is minimized. Setbacks between project buildings and planned or existing sidewalks are minimized. Buildings are oriented towards existing or planned street frontage. Primary entrances to buildings are located along planned or existing public street frontage. Project provides bicycle access to any planned bicycle corridor(s). Project provides pedestrian access to any</p>	<p>The DVSP Update would accommodate compact, mixed-use development, including office space, in close proximity to these transit facilities. The overall vision for PA-4 is to concentrate amenities close to the Escondido Avenue Sprinter station and Vista Village is already located across Vista Village Drive from the Vista Transit Center. Refer to T-5, Pedestrian Network, and Bus Shelter for Existing Planned Transit Service regarding the pedestrian/bicycle networks. Pedestrian and bicycle circulation would be incorporated into future development. The following guidelines pertain to the</p>

Table 4.4-7. Continued

Recommended GHG Reduction Measure	DVSP Update Consistency
planned pedestrian corridor(s).	<p>orientation of buildings toward the street frontage.</p> <p>Section 3.8.2, General Commercial</p> <ul style="list-style-type: none"> <li>Buildings should face the primary street frontage and provide direct pedestrian access from the public sidewalk</li> </ul> <p>Therefore, the DVSP Update would be consistent with this GHG reduction measure.</p>
<b>Services Operational</b>	
Project provides on-site shops and services for employees.	<p>The DVSP Update would accommodate compact mixed-use development throughout the SPA, including office, retail, and commercial development. Therefore, shops and services would be located in close proximity to employment centers and the DVSP Update would be consistent with this GHG reduction measure.</p>
<b>Residential Density (Employ Sufficient Density for New Residential Development to Support the Use of Public Transit)</b>	
<p>Project provides high-density residential development. Transit facilities must be within one quarter mile of project border.</p> <p>Project provides safe and convenient bicycle/pedestrian access to all transit stop(s) within one-quarter mile of project border.</p>	<p>The DVSP Update would accommodate live/work units, mixed use development, and multi-family dwellings. Two Sprinter railroad stops are located in the SPA, as well as bus stops throughout the SPA. Refer to T-5, Pedestrian Network, and Bus Shelter for Existing Planned Transit Service regarding the pedestrian/bicycle networks. The DVSP Update includes high-density residential development with access to nearby transit facilities. Therefore, the DVSP Update would be consistent with this GHG reduction measure.</p>
<b>Urban Mixed-Use</b>	
<p>Development of projects predominantly characterized by properties on which various uses, such as office, commercial, institutional, and residential, are combined in a single building or on a single site in an integrated development project with functional interrelationships and a coherent physical design.</p>	<p>The DVSP Update would accommodate a variety of uses throughout the SPA, including residential, retail, commercial, office, and municipal land uses. The overall visions for PA-1, PA-3, and PA-4 include connectivity between planning areas. The following guideline pertains to connectivity between uses within the SPA:</p> <p>Section 3.8.1, Area-wide Guidelines</p> <ul style="list-style-type: none"> <li>General Design Objectives</li> <li>When adjacent uses can mutually benefit from connection, appropriate linkages (e.g. common landscape areas, building orientation, pedestrian paseos, and unfenced property lines) are recommended.</li> </ul> <p>Therefore, the DVSP Update would be consistent with this GHG reduction measure.</p>
<b>Suburban Mixed-Use</b>	
<p>Have at least three of the following on site and/or off site within one-quarter mile: Residential Development, Retail Development, Park, Open Space, or Office.</p>	<p>The DVSP Update would accommodate residential development, retail development, parks, open space, and office development throughout the SPA. The DVSP Update proposes compact development and a variety of land uses would be located within one-quarter mile of each other. Therefore, the DVSP Update would be consistent with this GHG reduction measure.</p>



Table 4.4-7. Continued

Recommended GHG Reduction Measure	DVSP Update Consistency
<b>Infill Development</b>	
Project site is on a vacant infill site, redevelopment area, or brownfield or greyfield lot that is highly accessible to regional destinations, where the destinations rating of the development site (measured as the weighted average travel time to all other regional destinations) is improved by 100% when compared to an alternate greenfield site.	The SPA is currently developed. The DVSP Update would involve the redevelopment or infill development within the already urbanized area. Additionally, the SPA is regionally accessible via two Sprinter stations, bus stops, and SR-78. Therefore, the DVSP Update would be consistent with this GHG reduction measure.
<b>Enhanced Recycling/Waste Reduction, Reuse, Composting</b>	
Provide infrastructure/education that promotes the avoidance of products with excessive packaging, recycle, buying of refills, separating of food and yard waste for composting, and using rechargeable batteries.	Refer to the Green Building and Sustainable Design guidelines in Section 3.8.1, Area-wide Guidelines. Implementation of the DVSP Update would encourage the leasing or sales office for development to include educational materials for residents or tenants regarding sustainable practices such as recycling and availability of recycling services, composting, hazardous waste facilities and pick-up services, reuse of materials, using rechargeable batteries, low water usage, energy efficiency, and the availability of alternative transportation opportunities. Therefore, the DVSP Update would be consistent with this GHG reduction measure.
<b>LEED Certification</b>	
LEED promotes a whole-building approach to sustainability by recognizing performance in five key areas of human and environmental health: sustainable site development, water savings, energy efficiency, materials selection, and indoor environmental quality.	Refer to the Green Building and Sustainable Design guidelines in Section 3.8.1, Area-wide Guidelines. Implementation of the DVSP Update would encourage the use of LEED building components or achievement LEED certification. Therefore, the DVSP Update would be consistent with this GHG reduction measure.
<b>Landscaping</b>	
<p>Project shall use drought resistant native trees, trees with low emissions and high carbon sequestration potential.</p> <p>Evergreen trees on the north and west sides afford the best protection from the setting summer sun and cold winter winds. Additional considerations include the use of deciduous trees on the south side of the house that will admit summer sun; evergreen plantings on the north side will slow cold winter winds; constructing a natural planted channel to funnel summer cooling breezes into the house.</p> <p>Neighborhood CCR's not requiring that front and side yards of single family homes be planted with turf grass. Vegetable gardens, bunch grass, and low-water landscaping shall also be permitted, or even encouraged.</p>	<p>The following guidelines identified in the DVSP Update would ensure that the project is consistent with this GHG reduction measure.</p> <p>Section 3.5.2, General Operating Standards</p> <ul style="list-style-type: none"> <li>Landscaping Standards. Drought-tolerant landscaping required. All landscaping shall be installed and maintained to minimize irrigation demand. Shrubs, trees, vines, perennials, and ground cover shall demonstrate drought-tolerant features consistent with the California Department of Water specifications.</li> </ul>
<b>On-site Renewable Energy System</b>	
Project provides on-site renewable energy system(s). Nonpolluting and renewable energy potential includes solar, wind, geothermal, low-impact hydro, biomass and bio-gas strategies. When applying these strategies, projects may take advantage of net metering with the local utility.	Refer to the Green Building and Sustainable Design guidelines in Section 3.8.1, Area-wide Guidelines. Implementation of the DVSP Update would encourage use of photovoltaic cells on roof tops or covered parking areas, where feasible. Therefore, the DVSP Update would be consistent with this GHG reduction measure.

Table 4.4-7. Continued

Recommended GHG Reduction Measure	DVSP Update Consistency
<b>Exceed Title 24</b>	
Project exceeds title 24 requirements by 20%.	Refer to the Green Building and Sustainable Design guidelines in Section 3.8.1, Area-wide Guidelines. Implementation of the DVSP Update would encourage new construction to exceed Title 24 Energy Efficiency Standards by 20 percent or more. Therefore, the DVSP Update would be consistent with this GHG reduction measure.
<b>Low Energy Cooling</b>	
Project optimizes building's thermal distribution by separating ventilation and thermal conditioning systems.	Refer to the Green Building and Sustainable Design guidelines in Section 3.8.1, Area-wide Guidelines. The DVSP Update would encourage development to optimize a building's thermal distribution by separating ventilation and thermal conditioning systems, where feasible. Therefore, the DVSP Update would be consistent with this GHG reduction measure.
<b>EV Charging Facilities</b>	
Project installs EV charging facilities.	Refer to the Green Building and Sustainable Design guidelines in Section 3.8.1, Area-wide Guidelines. Implementation of the DVSP Update would encourage installation of electric vehicle charging facilities, where feasible. Therefore, the DVSP Update would be consistent with this GHG reduction measure.
<b>Light Colored Paving</b>	
Project provides light-colored paving (e.g., increased albedo pavement).	Refer to the Green Building and Sustainable Design guidelines in Section 3.8.1, Area-wide Guidelines. Implementation of the DVSP Update would encourage use of light colored paving such as increased-albedo pavement, where feasible. Therefore, the DVSP Update would be consistent with this GHG reduction measure.
<b>Solar Water Heaters</b>	
Project provides solar water heaters.	Refer to the Green Building and Sustainable Design guidelines in Section 3.8.1, Area-wide Guidelines. The DVSP Update would encourage photovoltaic applications on all new and remodeled buildings, where feasible. Therefore, the DVSP Update would be consistent with this GHG reduction measure.
<b>Energy Efficient Appliance Standards</b>	
Project uses energy efficient appliances (e.g., Energy Star®).	Refer to the Green Building and Sustainable Design guidelines in Section 3.8.1, Area-wide Guidelines. The DVSP Update would encourage high-efficiency, Energy Star®-rated, or higher, equipment to be installed in new and remodeled buildings. Therefore, the DVSP Update would be consistent with this GHG reduction measure.
<b>Green Building Materials</b>	
Project uses materials which are resource efficient, recycled, with long life cycles and manufactured in an environmentally friendly way.	Refer to the Green Building and Sustainable Design guidelines in Section 3.8.1, Area-wide Guidelines. The DVSP Update would encourage the use of locally available building materials, such as concrete, stucco, and interior finishes, where feasible. Additionally, implementation of the DVSP Update would require future development projects to establish a

Table 4.4-7. Continued

Recommended GHG Reduction Measure	DVSP Update Consistency
	construction management plan with the local waste hauler that diverts a minimum of 50 percent of construction, demolition, and site clearing waste. Therefore, the DVSP Update would be consistent with this GHG reduction measure.
<b>Water Use Appliances</b>	
Require the installation of low-water use appliances.	Refer to the Green Building and Sustainable Design guidelines in Section 3.8.1, Area-wide Guidelines. The DVSP Update would require low-flow or no-flow plumbing fixtures to be installed in new and renovated buildings. Therefore, the DVSP Update would be consistent with this GHG reduction measure.
<b>ARB Certified Diesel Construction Equipment</b>	
Use ARB-certified diesel construction equipment. Increases CO <sub>2</sub> emissions when trapped CO and carbon particles are oxidized (Catalyst Products 2007, ETC 2007).	<p>Implementation of the following mitigation measure would ensure that the project is consistent with this recommended GHG reduction measure.</p> <p><b>Air-2</b> Construction Ozone Precursor Control Measures. The following shall be implemented throughout construction to minimize emissions of O<sub>3</sub> precursors (NO<sub>x</sub> and VOCs):</p> <ul style="list-style-type: none"> <li>• Turn off all diesel-powered vehicles and gasoline-powered equipment when not in use for more than five minutes.</li> <li>• Use electric or natural gas-powered construction equipment in lieu of gasoline or diesel-powered engines, where feasible.</li> <li>• Use ARB-certified diesel construction equipment.</li> <li>• Support and encourage ridesharing and transit incentives for the construction crew.</li> </ul>
<b>Alternative Fuel Construction Equipment</b>	
Use alternative fuel types for construction equipment. At the tailpipe biodiesel emits 10% more CO <sub>2</sub> than petroleum diesel. Overall lifecycle emissions of CO <sub>2</sub> from 100% biodiesel are 78% lower than those of petroleum diesel (NREL 1998, EPA 2007b).	<p>Implementation of the following mitigation measure would ensure that the project is consistent with this recommended GHG reduction measure.</p> <p><b>Air-2</b> Construction Ozone Precursor Control Measures. The following measures shall be implemented throughout construction to minimize emissions of O<sub>3</sub> precursors (NO<sub>x</sub> and VOCs):</p> <ul style="list-style-type: none"> <li>• Turn off all diesel-powered vehicles and gasoline-powered equipment when not in use for more than five minutes.</li> <li>• Use electric or natural gas-powered construction equipment in lieu of gasoline or diesel-powered engines, where feasible.</li> <li>• Require 10 percent of construction fleet to use any combination of diesel catalytic converters, diesel oxidation catalysts, diesel particulate filters, and/or CARB-certified Tier III equipment or better.</li> <li>• Support and encourage ridesharing and transit incentives for the construction crew.</li> </ul>

Table 4.4-7. Continued

Recommended GHG Reduction Measure	DVSP Update Consistency
<b>Local Building Materials</b>	
Use locally made building materials for construction of the project and associated infrastructure.	Refer to the Green Building and Sustainable Design guidelines in Section 3.8.1, Area-wide Guidelines. The DVSP Update would encourage the use of locally available building materials, such as concrete, stucco, and interior finishes, where feasible. Therefore, the DVSP Update would be consistent with this GHG reduction measure.
<b>Recycle Demolished Building Material</b>	
Recycle/Reuse demolished construction material. Use locally made building materials for construction of the project and associated infrastructure.	Refer to the Green Building and Sustainable Design guidelines in Section 3.8.1, Area-wide Guidelines. Implementation of the DVSP Update would require future development projects to establish a construction management plan with the local waste hauler that diverts a minimum of 50 percent of construction, demolition, and site clearing waste.
<b>California Attorney General's Office Recommended Strategies<sup>(2)</sup></b>	
<b>Energy Efficiency</b>	
Design buildings to be energy efficient	<p>Refer to the Green Building and Sustainable Design guidelines in Section 3.8.1, Area-wide Guidelines. The DVSP Update includes the following guidelines for energy efficiency:</p> <ul style="list-style-type: none"> <li>• Use of photovoltaic cells on roof tops or covered parking areas is encouraged.</li> <li>• Use of LEED building components or achieving LEED certification is encouraged.</li> <li>• New construction is encouraged to exceed Title 24 Energy Efficiency Standards by 20 percent or more.</li> </ul> <p>Therefore, the DVSP Update would be consistent with this GHG reduction measure.</p>
Install light colored "cool" roofs and cool pavements.	Refer to the Green Building and Sustainable Design guidelines in Section 3.8.1, Area-wide Guidelines. The DVSP Update would encourage light colored paving to be installed, where feasible. In addition, landscaping would be encouraged to be used within large paved areas in order to reduce the heat island effect. Therefore, the DVSP Update would be consistent with this GHG reduction measure.
<b>Renewable Energy</b>	
Install solar, wind, and geothermal power systems and solar hot water heaters. Educate consumers about existing incentives.	<p>Refer to the Green Building and Sustainable Design guidelines in Section 3.8.1, Area-wide Guidelines. The DVSP Update includes the following guidelines for renewable energy:</p> <ul style="list-style-type: none"> <li>• Use of photovoltaic cells on roof tops or covered parking areas, where feasible.</li> <li>• Electric vehicle charging facilities should be installed where feasible.</li> <li>• High-efficiency, Energy Star®-rated, or higher, equipment will be installed in new and remodeled buildings, where feasible.</li> <li>• Thermal distribution should be optimized in all new and remodeled buildings by separating ventilation and thermal conditioning systems, where feasible.</li> </ul> <p>Therefore, the DVSP Update would be consistent with this GHG reduction measure.</p>



Table 4.4-7. Continued

Recommended GHG Reduction Measure	DVSP Update Consistency
Install solar panels on carports and over parking areas.	Refer to the Green Building and Sustainable Design guidelines in Section 3.8.1, Area-wide Guidelines. The DVSP Update would encourage use of photovoltaic cells on roof tops or covered parking areas. Therefore, the DVSP Update would be consistent with this GHG reduction measure.
<b>Water Conservation and Efficiency</b>	
Create water-efficient landscapes.	<p>Implementation of the following standards would ensure that the project is consistent with this recommended GHG reduction measure.</p> <p>Section 3.5.2, General Operating Standards</p> <ul style="list-style-type: none"> <li>Landscaping Standards. Drought-tolerant landscaping required. All landscaping shall be installed and maintained to minimize irrigation demand. Shrubs, trees, vines, perennials, and ground cover shall demonstrate drought-tolerant features consistent with the California Department of Water specifications.</li> </ul>
Use reclaimed water for landscape irrigation in new developments and on public property. Install the infrastructure to deliver and use reclaimed water.	<p>Implementation of the following standards would ensure that the project is consistent with this recommended GHG reduction measure.</p> <p>Section 3.5.2, General Operating Standards</p> <ul style="list-style-type: none"> <li>Landscaping Standards. Recycled water, including stormwater runoff, shall be utilized to the maximum extent feasible for irrigation. All irrigation and planting on private property shall incorporate an automatic irrigation system. The irrigation system shall be maintained and operated by the project applicant.</li> </ul>
Restrict the use of water for cleaning outdoor surfaces and vehicles.	Refer to the Green Building and Sustainable Design guidelines in Section 3.8.1, Area-wide Guidelines. The DVSP Update would encourage sweeping of outdoor use areas instead of spraying or hosing with water. Therefore, the DVSP Update would be consistent with this GHG reduction measure.
Implement low-impact development practices that maintain the existing hydrologic character of the site to manage storm water and protect the environment. (Retaining storm water runoff on site can drastically reduce the need for energy-intensive imported water at the site.)	<p>The SPA is currently developed with impervious surfaces. Refer to Section 4.8, Hydrology and Water Quality; implementation of the DVSP Update would not result in a significant impact with regards to hydrology and water quality. Additionally, refer to the Green Building and Sustainable Design guidelines in Section 3.8.1, Area-wide Guidelines. The DVSP Update would encourage the following low-impact development practices:</p> <ul style="list-style-type: none"> <li>The use of pervious surfaces and pervious paving are encouraged.</li> <li>Projects are encouraged to be designed in a manner that runoff from rooftops, parking areas and other sources drains into landscape areas.</li> <li>Outdoor trash and storage areas should be covered to reduce pollution introduction.</li> <li>Sweeping of outdoor use areas instead of spraying or hosing with water is encouraged.</li> </ul> <p>Therefore, the DVSP Update would be consistent with this GHG reduction measure.</p>

Table 4.4-7. Continued

Recommended GHG Reduction Measure	DVSP Update Consistency
<b>Solid Waste Measures</b>	
Reuse and recycle construction and demolition waste (including, but not limited to, soil, vegetation, concrete, lumber, metal, and cardboard).	Refer to the Green Building and Sustainable Design guidelines in Section 3.8.1, Area-wide Guidelines. Implementation of the DVSP Update would require future development projects to establish a construction management plan with the local waste hauler that diverts a minimum of 50 percent of construction, demolition, and site clearing waste.
Provide interior and exterior storage areas for recyclables and green waste and adequate recycling containers located in public areas.	Refer to the Green Building and Sustainable Design guidelines in Section 3.8.1, Area-wide Guidelines. Implementation of the DVSP Update would require interior and exterior storage areas for recyclables and adequate recycling containers located in public areas to be provided and maintained at all development. Future residential development shall also provide exterior storage areas for green waste.
Provide education and publicity about reducing waste and available recycling services.	Refer to the Green Building and Sustainable Design guidelines in Section 3.8.1, Area-wide Guidelines. The DVSP Update would require the leasing or sales office for development to include educational materials for residents or tenants regarding sustainable practices such as recycling and availability of recycling services, composting, hazardous waste facilities and pick-up services, reuse of materials, using rechargeable batteries, low water usage, energy efficiency, and the availability of alternative transportation opportunities.. Therefore, the DVSP Update would be consistent with this GHG reduction measure.
<b>Land Use Measures</b>	
Include mixed-use, infill, and higher density in development projects to support the reduction of vehicle trips, promote alternatives to individual vehicle travel, and promote efficient delivery of services and goods.	The DVSP Update would involve redevelopment or infill development within an already urbanized area. The DVSP Update would accommodate residential development, retail development, parks, open space, and office development throughout the SPA. The DVSP Update proposes compact development in which a variety of land uses would be located in close proximity to each other. Therefore, the DVSP Update would be consistent with this GHG reduction measure.
Incorporate public transit into project design.	Two Sprinter railroad stations are located in the SPA, as well as bus stops throughout the SPA. Refer to T-5, Pedestrian Network, and Bus Shelter for Existing Planned Transit Service regarding the pedestrian/bicycle networks, which would provide access to transit facilities and connectivity between land uses. Therefore, the DVSP Update would be consistent with this GHG reduction measure.
Preserve and create open space and parks. Preserve existing trees, and plant replacement trees at a set ratio.	Parks, public open space, and trails are permitted land uses in every DVSP Update planning area. The Character Defining Elements and Guidelines in the Design and Development Plan for PA-1 encourage public open spaces such as small plazas or courtyards to be integrated into the pedestrian network. The Character Defining Elements and Guidelines for PA-2 encourage outdoor public spaces and amenities to create community gathering places. Large public spaces are envisioned in PA-4. The following area-wide guidelines pertain to the creation of open space and parks.

Table 4.4-7. Continued

Recommended GHG Reduction Measure	DVSP Update Consistency
	<p>Section 3.5.3, Standards for Specific Land Uses</p> <ul style="list-style-type: none"> <li>Mixed-use Development. Outdoor space may be provided as common or private space. Any common outdoor space shall have a minimum level surface dimension of 20 feet and a minimum area of 400 SF.</li> <li>Work/live Development - Open Space Requirements. Work/Live development consisting of 4 or fewer units shall provide a minimum 50 SF of private open space per unit. Developments exceeding 4 units shall provide 150 SF of private or common open space per unit. Common open space shall be accessible to all residential units within the Work/Live development.</li> </ul> <p>Section 3.8.4, Residential Design Guidelines</p> <ul style="list-style-type: none"> <li>Residents should have access to usable open space for recreation and social activities. Open spaces should be conveniently located for the majority of units.</li> <li>A series of connected open space areas of varying shape, appearance, and usage are encouraged.</li> </ul> <p>Therefore, the DVSP Update would be consistent with this GHG reduction measure.</p>
Include pedestrian and bicycle-only streets and plazas within developments. Create travel routes that ensure that destinations may be reached conveniently by public transportation, bicycling or walking.	Refer to T-5, Pedestrian Network, and Bus Shelter for Existing Planned Transit Service regarding the pedestrian/bicycle networks, which would provide access to transit facilities and connectivity between land uses. Therefore, the DVSP Update would be consistent with this GHG reduction measure.
<b>Transportation and Motor Vehicles</b>	
Limit idling time for commercial vehicles, including delivery and construction vehicles.	Refer to discussion of mitigation measure <i>Air-2</i> above.
Build or fund a transportation center where various public transportation modes intersect.	The Vista Transit Center is already located in the SPA which includes Sprinter rail and Breeze bus service. Therefore, the DVSP Update would be consistent with this GHG reduction measure.
Promote "least polluting" ways to connect people and goods to their destinations.	<p>The DVSP Update promotes compact, connected mixed-use development that would encourage visitors and residents to utilize other forms of transportations besides personal vehicles. Two Sprinter stations and bus stops throughout the SPA are available and would be accessible to pedestrians and bicycles. Refer to T-5, Pedestrian Network, and Bus Shelter for Existing Planned Transit Service regarding the pedestrian/bicycle networks. The following guideline pertains to connectivity between uses within the SPA:</p> <p>Section 3.8.1, Area-wide Guidelines</p> <ul style="list-style-type: none"> <li>General Design Objectives. When adjacent uses can mutually benefit from connection, appropriate linkages (e.g. common landscape areas, building orientation, pedestrian paseos, and unfenced property lines) are recommended.</li> </ul> <p>Therefore, the DVSP Update would be consistent with this GHG reduction measure.</p>

Table 4.4-7. Continued

Recommended GHG Reduction Measure	DVSP Update Consistency
Incorporate bicycle lanes and routes into street systems, new subdivisions, and large developments.	Refer to T-5, Pedestrian Network, and Bus Shelter for Existing Planned Transit Service regarding the pedestrian/bicycle networks. Therefore, the DVSP Update would be consistent with this GHG reduction measure.
<i>For commercial projects, provide adequate bicycle parking near building entrances to promote cyclist safety, security, and convenience. For large employers, provide facilities that encourage bicycle commuting, including, e.g., locked bicycle storage or covered or indoor bicycle parking.</i>	Refer to discussion of mitigation measure <i>Air-5</i> above.
Create bicycle lanes and walking paths directed to the location of schools, parks and other destination points.	Refer to T-5, Pedestrian Network, and Bus Shelter for Existing Planned Transit Service regarding the pedestrian/bicycle networks. Therefore, the DVSP Update would be consistent with this GHG reduction measure..
<b>California Climate Action Team Strategies<sup>(3)</sup></b>	
<b>Vehicle Climate Change Standards</b>	
AB 1493 (Pavley) required the state to develop and adopt regulations that achieve the maximum feasible and cost-effective reduction of climate change emissions emitted by passenger vehicles and light duty trucks. Regulations were adopted by the ARB in September 2004.	Any passenger vehicles or light duty trucks operating in the SPA would be registered with the State and be required to comply with ARB requirements. Therefore, the DVSP Update would be consistent with this GHG reduction measure.
<b>Other Light Duty Vehicle Technology</b>	
New standards would be adopted to phase in beginning in the 2017 model.	Any passenger vehicles or light duty trucks operating in the SPA would be registered with the State and be required to comply with ARB requirements. Therefore, the DVSP Update would be consistent with this GHG reduction measure.
<b>Achieve 50 percent Statewide Recycling Goal</b>	
Achieving the State's 50 percent waste diversion mandate as established by the Integrated Waste Management Act of 1989, (AB 939, Sher, Chapter 1095, Statutes of 1989), will reduce climate change emissions associated with energy intensive material extraction and production as well as methane emission from landfills. A diversion rate of 48 percent has been achieved on a statewide basis. Therefore, a 2 percent additional reduction is needed.	Refer to the Green Building and Sustainable Design guidelines in Section 3.8.1, Area-wide Guidelines. Implementation of the DVSP Update would require interior and exterior storage areas for recyclables and adequate recycling containers located in public areas to be provided and maintained at all development. Future residential development shall also provide exterior storage areas for green waste. Additionally, the DVSP Update would require the leasing or sales office for development to include educational materials for residents or tenants regarding sustainable practices such as recycling and availability of recycling services, composting, hazardous waste facilities and pick-up services, reuse of materials, using rechargeable batteries, low water usage, energy efficiency, and the availability of alternative transportation opportunities.. Therefore, the DVSP Update would be consistent with this GHG reduction measure.



Table 4.4-7. Continued

Recommended GHG Reduction Measure	DVSP Update Consistency
<b>Urban Forestry</b>	
<p>A new statewide goal of planting 5 million trees in urban areas by 2020 would be achieved through the expansion of local urban forestry programs.</p>	<p>The following standards identified in the DVSP Update would ensure that the project is consistent with this GHG reduction measure.</p> <p>Section 3.5.2, General Operating Standards</p> <ul style="list-style-type: none"> <li>Landscaping Standards. Parking lot trees shall be planted at a minimum ratio of one tree for each 10 parking stalls.</li> </ul>
<b>Smart Land Use and Intelligent Transportation Systems</b>	
<p>Smart land use strategies encourage jobs/housing proximity, promote transit oriented development, and encourage high-density residential/commercial development along transit corridors.</p> <p>Intelligent Transportation Systems (ITS) is the application of advanced technology systems and management strategies to improve operational efficiency of transportation systems and movement of people, goods and services.</p> <p>Governor Schwarzenegger is finalizing a comprehensive 10-year strategic growth plan with the intent of developing ways to promote, through state investments, incentives and technical assistance, land use, and technology strategies that provide for a prosperous economy, social equity, and a quality environment.</p>	<p>The DVSP Update promotes compact, connected mixed-use development that would encourage visitors and residents to utilize other forms of transportations besides personal vehicles. Two Sprinter stations and bus stops throughout the SPA are available and would be accessible to pedestrians and bicycles. Refer to T-5, Pedestrian Network, and Bus Shelter for Existing Planned Transit Service regarding the pedestrian/bicycle networks. Therefore, the DVSP Update would be consistent with this GHG reduction measure.</p>
<b>Green Buildings Initiative</b>	
<p>Green Building Executive Order, S-20-04 (CA 2004), sets a goal of reducing energy use in public and private buildings by 20 percent by the year 2015, as compared with 2003 levels.</p>	<p>Refer to the Green Building and Sustainable Design guidelines in Section 3.8.1, Area-wide Guidelines. The DVSP Update would encourage exceedance of Title 24 Energy Efficiency Standards by 20 percent or more. Therefore, the DVSP Update would be consistent with this GHG reduction measure.</p>
<b>California Solar Initiative</b>	
<p>Installation of 1 million solar roofs or an equivalent 3,000 MW by 2017 on homes and businesses; increased use of solar thermal systems to offset the increasing demand for natural gas; use of advanced metering in solar applications; and creation of a funding source that can provide rebates over 10 years through a declining incentive schedule.</p>	<p>Refer to the Green Building and Sustainable Design guidelines in Section 3.8.1, Area-wide Guidelines. The DVSP Update would encourage use of photovoltaic cells on roof tops or covered parking areas. Therefore, the DVSP Update would be consistent with this GHG reduction measure.</p>

## Sources:

- (1) California Air Pollution Control Officers Association (CAPCOA), CEQA & Climate Change. Evaluating and Addressing Greenhouse Gas Emissions from Projects Subject to the California Environmental Quality Act. January 2008.
- (2) Office of the California Attorney General. Global Warming Measures. The California Environmental Quality Act, Addressing Global Warming Impacts at the Local Agency Level. Updated 12/09/08.
- (3) State of California, Environmental Protection Agency, Climate Action Team, 2006.

**Table 4.4-8. GHG Emission Reductions Estimates for Project-Incorporated Measures**

<b>Project-Incorporated CAPCOA Measure</b>	<b>CAPCOA Estimated Reduction</b>	<b>DVSP Update Equivalent</b>	<b>DVSP Update Reduction Estimate</b>
<b>Vehicular Use Measures</b>			
Bike Parking	1%	Mitigation measure <i>Air-5</i>	1%
End of Trip Facilities	1%	Mitigation measure <i>Air-5</i>	1%
Bike Parking at Multi-Unit Residential	1%	Mitigation measure <i>Air-5</i>	1%
Proximity to Bike Path/Bike Lanes	1%	Mitigation measure <i>Air-5</i>	1%
Pedestrian Network	1-10%	DVSP Update General Design Objectives and Objectives for General Commercial, Residential, and Public Spaces	2%
Bus Shelter for Existing/Planned Transit Service	1-2%	Mitigation measure <i>Air-5</i> , DVSP Update Objectives for Public Spaces, and SPA proximity to transit facilities	1%
Traffic Calming	1-10%	DVSP Update General Design Objectives and Objectives for General Commercial, Residential, and Public Spaces	1%
Parking Reduction Beyond Code/Shared Parking	1-30%	Refer to Section 3.9-f of the DVSP Update, Parking Plan	5%
Pedestrian Pathway Through Parking	1-4%	DVSP Update General Commercial Guidelines and Guidelines for Places of Assembly and Public Spaces	1%
Office/Mixed-Use Density	0.05-2%	SPA proximity to transit facilities, proposed mixed-use development, and proposed pedestrian/bicycle facilities	2%
Orientation to Existing/Planned Transit Bikeway, or Pedestrian Corridor	0.4-1%	SPA proximity to transit facilities, proposed mixed-use development, and proposed pedestrian/bicycle facilities	1%
Services Operational	0.5-5%	DVSP Update proposes mixed-use development	1%
Residential Density (Employ Sufficient Density for New Residential Development to Support the Use of Public Transit)	1-40%	DVSP Update proposed high-density residential development near transit facilities and pedestrian/bicycle facilities	10%
Urban Mixed-Use	3-9%	DVSP Update proposes connected mixed-use development	5%
Suburban Mixed Use	3%	DVSP Update proposes compact mixed-use development	3%
Infill Development	3-30%	DVSP Update would redevelopment or accommodate new infill development in an already developed area	10%
<b>Total Estimated Reduction in Vehicular Use Emissions</b>			<b>46%</b>
<b>Electricity Use</b>			
On-site Renewable Energy System	1-3%	DVSP Update Green Building and Sustainable Design Guidelines	1%
Exceed Title 24	1%, moderate	DVSP Update Green Building and Sustainable Design Guidelines	1%
Low Energy Cooling	1-10%	DVSP Update Green Building and Sustainable Design Guidelines	1%

Table 4.4-8. Continued

Project-Incorporated CAPCOA Measure	CAPCOA Estimated Reduction	DVSP Update Equivalent	DVSP Update Reduction Estimate
Solar Water Heaters	20% to 70% reduction in cooling/energy needs (moderal reduction in overall emissions)	DVSP Update Green Building and Sustainable Design Guidelines	1%
<b>Total Estimated Reduction in Electricity Use Emissions</b>			<b>4%</b>

Source: CAPCOA, January 2008.

Table 4.4-9. Estimated GHG Emission Reductions

Project-Incorporated CAPCOA Measure	Business and Usual Emissions	DVSP Update Reduction Estimate	Emissions with Incorporation of CAPCOA Measures
Vehicular Use	40,406	46% <sup>(1)</sup>	21,819
Electricity Use	4,103	4% <sup>(1)</sup>	3,939
Natural Gas Use	6,176	None	6,176
Solid Waste	2,756	None	2,756
Water Use	528	None	528
<b>Total Project Emissions</b>	<b>53,969</b>	<b>35%<sup>(2)</sup></b>	<b>35,218</b>

<sup>(1)</sup> Sum of the measures listed in Table 4.4-8<sup>(2)</sup> Percent change from total BAU GHG emissions to GHG emissions total with incorporation of CAPCOA measures

According to the 2008 OPR technical advisory, although climate change is ultimately a cumulative impact, not every individual project that emits GHG must necessarily be found to contribute to a significant cumulative impact on the environment. The guidance provided within the proposed State CEQA Guidelines Section 15064.4(b)(3), states that a lead agency should consider the extent to which a project complies with regulations or requirements adopted to implement a statewide, regional, or local plan for the reduction or mitigation of GHG emissions. The project would incorporate feasible and applicable greenhouse gas reduction measures recommended by the CAT, CAPCOA, and the California Attorney General. Incorporation of project features listed in Table 4.4-7 is estimated to reduce the project's overall greenhouse gas emissions by 35 percent. In addition, the project would be redeveloping a primarily developed area, which results in lower overall emissions in comparison with a similar level of development that would be undertaken at an undeveloped site. This type of growth is consistent with the Statewide strategy for achieving the goals set forth in AB 32.

As stated earlier, according to the EPIC SDCGHI study (2008), the San Diego region would have to reduce its projected BAU 2020 emissions by 14 MMT or 33 percent to meet the targets established by AB 32. As shown in Table 4.4-8, incorporation of GHG-reducing measures incorporated by the DVSP Update Plan includes measures that are consistent with strategies recommended by the CCAT, CAPCOA, and the California Attorney General, and the estimated reduction in GHG emissions levels would exceed the goals established for the region. Therefore, with implementation of the measures listed in Table 4.4-7,

implementation of the DVSP Update not generate GHG emissions, either directly or indirectly, that would conflict with any applicable plan, policy, or regulation of an agency adopted for the purpose of reducing the emissions of GHG, including AB 32. The impact associated with greenhouse gas emissions during project operation is considered less than significant.

### SIGNIFICANCE OF IMPACT

Implementation of the DVSP Update would not directly or indirectly generate a substantial amount of GHG with implementation of the measures listed in Table 4.4-7.

### MITIGATION MEASURES

Implementation of the DVSP Update would not result in a significant impact associated with the direct or indirect generation of GHG. Therefore, no mitigation is required.

## 4.4.6 CUMULATIVE IMPACTS

Due to the nature of assessment of GHG emissions and the effects of climate change, impacts can currently only be analyzed from a cumulative context. Therefore, the analysis provided above includes the analysis of both the project and cumulative impacts.

## 4.4.7 REFERENCES

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## 4.5 CULTURAL RESOURCES

The following section addresses paleontological and cultural resources. The information on cultural resources is based on the *Cultural and Historical Resources Survey for the Downtown Vista Specific Plan Update Program Environmental Impact Report* prepared by ASM Affiliates, Inc. (July 2009). This report assesses potential impacts to cultural and historical resources as a result of implementation of the DVSP Update. Appendix D of this PEIR contains the entire report, which is summarized in this section. For references to the discussions in this section, please refer to Appendix D.

### 4.5.1 EXISTING CONDITIONS

This section summarizes the paleontological and cultural setting of the project area. The summary is based on pertinent investigations in the general region which have contributed to the current constructions of past paleontological and cultural history; however, it is not intended to be an exhaustive account of all research conducted in the area. For a detailed discussion of the prehistoric and historic background of southern California and the City, including the SPA, refer to Appendix D.

#### 4.5.1.1 Paleontological Resources

Paleontological resources are fossil evidence of past life on earth, such as fossilized remains of vertebrate and invertebrate organisms, fossil tracks, and plant fossils. The presence of paleontological resources depends upon the underlying rock formation(s) in an area. The City is primarily underlain by mid-Cretaceous tonalite of the Peninsular Ranges batholith. Gabbro, metasedimentary and metavolcanic rock, and the Santiago Formation are also found in the City, but not in the SPA. In addition, active streams and drainages contain recent alluvium. The SPA is underlain by tonalite and may contain recent alluvium along Buena Vista Creek or one of its tributaries. According to the County of San Diego (2007), igneous rocks such as tonalite have no potential to contain paleontological resources. Due to its relatively young age, recent alluvium has a low potential for paleontological resources.

#### 4.5.1.2 Prehistoric Background

Archaeological investigations along the southern California coast have indicated that there was a diverse range of human occupation activities extending from the early Holocene (approximately 11,000 to 10,000 years ago) into the Ethnohistoric period 100 to 400 years ago. The basic cultural sequence for San Diego County was established by Rogers (1929, 1945), and subsequent scholars have generally refined it by subdividing cultures, combining cultures, or renaming the sequence. The most enduring local culture historical terminologies are those generated by Rogers (1945) and a later synthetic treatment by Wallace (1955) that integrates San Diego County with other portions of the southern California coast. In addition, True's (1966) terminology for late adaptations in the San Luis Rey River area has continued to have widespread acceptance. There are four general periods that are used to describe prehistory in the project area. These are Early Man [Human Occupation Prior to 11,500 Before Present (B.P.)], Paleoindian (11,500 B.P. - 8500/7500 B.P.), Archaic (8500 B.P. - 1300/800 B.P.), and Late Prehistoric (1300/800 B.P. - 200 B.P.). These four general periods are discussed in more detail in Appendix D.

#### 4.5.1.3 Ethnohistoric Background

The City is located within the territory of the ethnohistoric Native American Luiseño cultural group. This group is a Shoshonean-speaking population that inhabited what is now northern San Diego, southern Orange, and southeastern Riverside counties through the Ethnohistoric period into the 21<sup>st</sup> century. Prior

to contact with the Spanish, the diet of the Luiseño included both plant and animal foods. There was considerable seasonality in the relative importance of plant versus animal food, and also the types of plant and animal foods. In California, Spanish explorers first encountered coastal villages of Native Americans in 1769 with the establishment of Mission San Diego de Alcalá. The missions "recruited" coastal Native Americans to use as laborers and convert them to Catholicism which had a dramatic affect on their traditional cultural practices.

#### **4.5.1.4 History of Vista**

##### **Spanish Period (1769-1821)**

On July 20, 1769, Father Juan Crespi arrived in the San Luis Rey River Valley. His report back to his superiors declaring it an ideal location for a mission led to the eventual founding of Mission San Luis Rey de Francia. At its height, San Luis Rey became one of the most populous and successful of the missions. In 1824, it had an Indian neophyte population of 3,000 and the extensive mission lands supported 1,500 horses, 2,800 sheep and 22,000 cattle.

##### **Mexican Period (1822-1846)**

Mexico won independence from Spain in 1821, and with it the process of dismantling of the mission system began to unfold. By 1835, the missions, including Mission San Luis Rey, were secularized. Mission San Luis Rey lands were parceled into six ranchos: Santa Margarita, Las Flores, Buena Vista, Agua Hedionda, Monserate, and Guajome. The SPA is located on lands that were part of the Mexican land grant called Rancho Buena Vista. Rancho Buena Vista was originally part of the extensive grazing lands attached to the Mission San Luis Rey. In 1845, Governor Pío Pico granted the 1,184-acre rancho to Felipe Subria, Native American and former neophyte at San Luis Rey Mission, who had been living on the land following the secularization of the mission in 1834. Subria deeded the property to his married daughter Maria Gracia Dunn. The next owner of the ranch was Jesus Machado who married Lugarda Alvarado four years after her first husband Jose Maria Alvarado was killed in the Pauma Valley Massacre. During their ownership they built part of the present Buena Vista Adobe. The Vista Land Company purchased a sizeable portion of the original rancho lands to establish the town site of Vista in 1912 and by World War I there remained only 51 acres of the original land grant. The original Rancho Buena Vista Adobe, located within the SPA, is one of the best preserved of the original Mexican-period adobe ranch houses in San Diego County. The adobe and surrounding land was purchased by the City of Vista in 1989.

##### **American Period (1846-Present)**

In the early 1880s, a small community developed in the Vista area. Settlement was sparse, but continued to grow through the 1880s. The early homesteaders primarily grew wheat and raised cattle. The completion of the Santa Fe rail line between Oceanside and Escondido via Vista and San Marcos in December 1887 provided a major boon to the Vista area. This rail line provided both passenger and freight service to San Diego via Oceanside and to San Bernardino via Fallbrook. The railroad served to transport livestock, grain and produce from Vista to urban markets in San Diego, Los Angeles, and further. Vista played an important economic role locally in the packaging and shipping of goods produced by local farmers.

The provision of rail service also served to attract prospective investors and to boost land sales. Growth was slow until 1912 when the Vista Land Development Company purchased most of the Rancho Buena Vista land and laid out the town site of Vista in the vicinity of the current downtown area. The Vista Land Development Company also dug wells near Buena Vista Creek to provide a water supply, constructed some irrigation works and built the Vista Inn. The Vista Inn, located at the southeast corner



of E. Vista Way and S. Santa Fe Avenue, soon became the center of social and business life in Vista and the whole of North San Diego County.

The growth of the town was hampered by a lack of sufficient water for irrigation. In 1923, VID was formed and on October 10, 1924 a \$1.7 million bond measure was passed by Vista voters by a vote of 96-0 to extend the Escondido Canal and build a flume from Lake Wohlford to Pechstein Reservoir in Vista. Completion of the water project spurred a spike in land values. Several buildings constructed during the late 1920s boom are located within the SPA, including the former First National Bank building at 221 Main Street, a local landmark building. Vista continued to grow through the 1930s and the growing population necessitated the construction of several new schools. In 1930, a new two-story elementary school, Lincoln Elementary, was constructed in the SPA on Escondido Avenue where City Hall is now located. A high school at Escondido Avenue and E. Vista Way was completed in 1938. This high school is located within the SPA.

During the war years, San Diego County experienced a rapid growth in population as service men and their families and defense industry workers flooded into the County. The influx of new residents during and after the war also resulted in a boom in the construction industry. Key buildings constructed in 1948 include the Avo Theater, the Hanes building and the American Legion building.

The population of Vista continued to rise through the 1950s as young families were attracted to the pleasant climate and small-town atmosphere. Several new residential subdivisions were developed in Vista during the late 1940s and 1950s. In 1955, construction of a freeway from Vista to Oceanside was completed. The freeway, now the SR-78, ended at Broadway and Santa Fe Avenue. As residential and commercial construction continued at a rapid pace into the 1960s, land values in Vista rose. SR-78, a freeway linking the coastal I-5 and inland I-15 was completed in 1970 and the communities along the freeway's corridor experienced a further boom in population. By the end of the 1970s, more than 33,000 residents called Vista home and between 1980 and 1990, Vista doubled in size.

#### **4.5.1.5 Previously Recorded Archaeological/Historical Resources**

Records Search ASM Affiliates, Inc. conducted a historical resources study of the SPA between May and June 2009. This study included: 1) a records search to identify previously recorded resources; 2) a literature review and archival research to develop a historical context for the study area; 3) Native American consultation; 4) a pedestrian survey of the SPA; 5) photo-documentation of all buildings situated within the project area that were constructed prior to 1960; 6) data manipulation and analysis; and 7) preparation of this report summarizing the results of the study.

The records search was conducted at the South Coastal Information Center (SCIC), located at San Diego State University (SDSU) on May 12, 2009. The results of this search were analyzed to determine if any cultural or historical resources were previously recorded within a one-half-mile radius of the SPA. Archival research was conducted at the San Diego Historical Society archives, Vista Historical Society and Museum, San Diego County Department of Planning and Land Use, and the City.

A total of 37 previous cultural and historical resource studies have been completed within a one-half-mile radius of the project area. Refer to Appendix D for a list and brief description of each of these studies. These studies have identified 13 archaeological and historical resources within one-half mile of the SPA, three of which are located within the boundaries of the SPA. Table 4.5-1 identifies the 13 sites located within one-half mile of the SPA. The three cultural resources recorded within the SPA boundaries are described below.

**Table 4.5-1. Previously Recorded Cultural and Historical Resources within One-Half Mile of the SPA**

Designation		Approximate Distance from the SPA (in feet)	Contents <sup>(1)</sup>	Recorder, Date
Primary Number (P-37-)	Trinomial Number (CA-SDI-)			
025153		2,280 feet	Single family property (HP2) converted to Commercial Building (HP6 – 1-3)	Judith Marvin, LSA Associates, Inc., 2003
025154		2,280 feet	Single family property (HP2) converted to Commercial Building (HP6 – 1-3)	Judith Marvin, LSA Associates, Inc., 2003
028777		Inside SPA	Urban Open Space (Park) (HP31)	Marben-Laird Associates, 1987
	00646	1,033 feet	Bedrock Milling Feature (AP4)	Wallace, 1958
	00647	Inside SPA	HP44 – Adobe Building/Structure and prehistoric milling associated artifacts	Wallace, 1958
	00648	1,099 feet	Prehistoric artifacts including 4 manos, 2 hammerstones, and a metate fragment  AP2 – Lithic Scatter and associated shell scatter	Wallace, 1958  Robbins-Wade, Jacobson, Nelson, Lucero and Hyde, 1991
	00649	1,575 feet	AP15 – Habitation Debris AP4 – Bedrock Milling Feature AP3 – Ceramic Scatter AP2 – Lithic Scatter AP11 – Hearth Feature	Robbins-Wade, Jacobson, Nelson, Lucero, and Hyde, 1991; Wallace, 1958
	00650	312 feet	AP4 – Bedrock Milling Feature AP3 – Ceramic Scatter, Shell also identified	Wallace, 1958
	00651	1,411 feet	AP15 – Habitation Debris	Wallace, 1958
	00652	2,051 feet	AP15 – Habitation Debris AP4 – Bedrock Milling Feature	Wallace, 1958
	00653	2,608 feet	AP15 – Habitation Debris	Wallace, 1958
	14323	869 feet	AH2 – Foundations/Structure Pads (2)	Delman and Bark, 1996; Gallegos and Guerro, 2007
	14324	Inside SPA	AH2 – Foundations/Structure Pads (2)	Delman and Bark, 1996; Gallegos and Guerro, 2007

<sup>(1)</sup> Corresponding Office of Historic Preservation Cultural Resource Code given in parenthesis  
Source: ASM Affiliates, 2009

### **P-37-028777 - Wildwood Park**

Marben-Laird recorded Wildwood Park as a historical resource during preparation of a 1987 historic resource inventory. This three-acre park was donated to the community of Vista in 1925 by F.J. and Helen Knight, owners of Rancho Buena Vista. It was noted that the park and creek “have remained primarily in a natural state” (Marben-Laird 1987:V-16).

### **CA-SDI-647 - Rancho Buena Vista Adobe**

William Wallace recorded a number of manos, metates, mortars, and pestles in the vicinity of the Rancho Buena Vista Adobe in 1958. The ranch house was recorded separately by Marben-Laird in 1987 as a historical building (P-37-027667).

### CA-SDI-14324H – Former Vista Depot

This site consists of two concrete foundations located adjacent to the Atchison, Topeka and Santa Fe (AT&SF) railroad tracks and Olive Avenue. One of the foundations marks the former location of the Vista Depot which was moved in 1981 to the corner of Washington and Indiana Streets. The foundations were recorded during a survey conducted by Ogden Environmental Inc. of the Oceanside-Escondido rail line in 1996. Both foundations were demolished during construction of the Sprinter light rail line.

### Native American Consultation

Native American consultation was completed by ASM Affiliates, Inc. A letter dated May 13, 2009 was sent to David Singleton of the NAHC requesting a sacred lands search. Mr. Singleton replied on May 14, 2009 that no Native American cultural resources had been recorded in the SPA. He provided a list of nine Native American tribes and individuals who may have knowledge of resources in the area. On May 19, 2009, letters were sent to each of the Native American contacts provided by Mr. Singleton. As of November 2009, no responses have been received. Copies of the Native American consultation letters are provided in Appendix D.

### 4.5.1.6 Historical Building Inventory

#### Historic Building Database

The Geofinder database is maintained by the SCIC at SDSU. It includes records of all historical buildings and structures previously recorded within San Diego County, typically as a result of a historic resource survey. A small percentage of previously recorded buildings in the Geofinder database have been evaluated for eligibility to the California Register of Historic Resources (CRHR) and/or the National Register of Historic Places (NRHP). The use of term “historical” refers to the age of the building and does not infer that the building is eligible to either the CRHR or the NRHP.

The Geofinder database identified 31 historical buildings within one-half mile of the SPA. Of these, 18 are within the SPA boundaries. These 31 buildings are listed in Table 4.5-2. Only 13 of the historic buildings recorded in the Geofinder database have been formally documented and no further information other than an address is given for the remainder of the buildings. Additionally, some information in the Geofinder database is out of date. For example, at least one of the historic buildings still listed in the Geofinder database, the former Recreation Center, was demolished during construction of the Vista Village development.

#### Historic Literature Review

The literature review for the historic resources survey for the SPA included an examination of previous survey reports, books, journal articles and online sources relevant to the City and the SPA. One previous historic resources survey was completed for the City by Marben-Laird Associates called *Historic Resource Survey, Vista, California* (1987). This survey was completed in advance of the Vista Main Street downtown revitalization program. The boundaries of this study included the entire City and all resources built between 1854 and 1948 were evaluated at the reconnaissance level. Twenty-two properties were selected for additional research and documentation and were recommended eligible to the NRHP. Table 4.5-3 identifies these properties. Of these resources, eight are currently located within the SPA and are identified in bold.

**Table 4.5-2. Previously Recorded Buildings Located Within One-Half Mile of the SPA<sup>(1)</sup>**

Address	Historic Name	City	Approximate Distance from SPA (in feet)	National Register Status Code
100 W Vista Way	--	Vista	148 feet	--
156 W Vista Way	--	Vista	148 feet	--
160 Recreation Drive	--	Vista	Inside SPA	--
200 E Broadway	--	Vista	Inside SPA	--
202 W Vista Way	--	Vista	164 feet	--
216 W Vista Way	--	Vista	197 feet	--
217 E Broadway	--	Vista	Inside SPA	--
220 W Vista Way	--	Vista	Inside SPA	--
240 N Santa Fe Avenue	--	Vista	Inside SPA	--
260 W Vista Way	--	Vista	246 feet	--
365 E Broadway	--	Vista	Inside SPA	--
404 N Citrus Avenue	--	Vista	476 feet	--
952 N Citrus Avenue	--	Vista	2,608 feet	--
1017 Torole Circle	--	Vista	1,181 feet	--
640 Alta Vista Drive	Rancho Buena Vista P-37-027667	Vista	705 feet	7 -- Not evaluated for the NRHP
1367 Clarence Drive	P-37-027644	Vista	640 feet	--
1364 Clarence Drive	P-37-027643	Vista	640 feet	--
303 Main Street	--	Vista	Inside SPA	--
240 E Vista Way	--	Vista	Inside SPA	--
123 E Vista Way	--	Vista	Inside SPA	--
0 Santa Fe Avenue	--	Vista	Inside SPA	--
1030 Heather Drive	Smith / S.O.S. House P-028769	Vista	Inside SPA	--
128 S. Beaumont Lane	Clement, Neva House P-37-082781	Vista	1,181 feet	--
207 Washington Street	Santa Fe Railroad Depot P-37-028776	Vista	Inside SPA	--
224 E. Vista Way	Sheffields Department Store P-37-28778	Vista	Inside SPA	--
226 E Vista Way	Dutch Bakery P-37-28775	Vista	Inside SPA	--
2376 Alta Vista Drive	Spanish Colonial Home P-37-28783	Vista	558 feet	--
303 E. Vista Way	Avo Theater P-37-28772	Vista	Inside SPA	--
321 S. Santa Fe Avenue	American Legion Post #365 P-37-28773	Vista	Inside SPA	--
211 E. Vista Way	Vista First National Bank P-37-28764	Vista	Inside SPA	--
137 N. Santa Fe Avenue	Red Barn P-37-28766	Vista	Inside SPA	--

<sup>(1)</sup> Data derived from the Geofinder database of historic buildings and structures maintained at South Coastal Information Center, SDSU

Source: ASM Affiliates, 2009



**Table 4.5-3. Historic Resources Recommended Eligible to the NRHP in 1987<sup>(1)</sup>**

Survey Number	Address	Historic Name
V.01	1155 Foothill Drive	Delpy House
V.02	<b>640 Alta Vista Drive</b>	<b>Rancho Buena Vista</b>
V.03	<b>211 E. Vista Way (Main Street)</b>	<b>Vista First National Bank</b>
V.04	2317 Foothill Drive	Rancho Mincerva
V.05	790 Vale View Drive	Charles Braun House <sup>(2)</sup>
V.06	2261 Edgehill	English Gentry House
V.07	2261 Edgehill	English Gentry Barn
V.08	1030 Heather Drive	Smith S.O.S. House
V.09	137 N. Santa Fe Avenue	Red Barn <sup>(3)</sup>
V.10	1260 Alta Vista Drive	McCurdy/Morton House
V.11	<b>303 E. Vista Way (Main Street)</b>	<b>AVO Theater</b>
V.12	<b>321 S. Santa Fe Avenue</b>	<b>American Legion Post #365</b>
V.13	160 Recreation Way	Recreation Center <sup>(4)</sup>
V.14	<b>226 E. Vista Way (Main Street)</b>	<b>Dutch Bakery</b>
V.15	<b>207 Washington Street</b>	<b>Santa Fe Railroad Depot</b>
V.16	<b>W. Vista Way and Alta Vista Drive</b>	<b>Wildwood Park</b>
V.17	<b>224 E. Vista Way (Main Street)</b>	<b>Sheffields Department Store</b>
V.18	2440 E. Vista Way	Mary Helen Ranch
V.19	1540 Alta Vista Drive	James Armstrong House
V.20	128 S. Beaumont Lane	Neva Clement House
V. 21	1624 San Luis Rey Avenue	Old Adobe Residence
V. 22	2376 Alta Vista Drive	Spanish Colonial Residence

(1) Buildings within the DVSP Update area are shown in **bold**

(2) The Charles Braun House was already listed in the NRHP at the time of the 1987 survey.

(3) The Red Barn, a Vista landmark for several decades, was later demolished.

(4) The former Recreation Center was demolished during the construction of the Vista Village development in 2000.

Source: ASM Affiliates, 2009

#### 4.5.1.7 Identification of Potentially Significant Properties

The results of the records research were used to develop a historic context statement for the SPA. The survey boundaries included the entire SPA. The age threshold for historic eligibility is 50 years. As a first step in identifying buildings constructed prior to 1960, the City provided a GIS database of 280 parcels containing buildings dating to 1960 or earlier. An intensive pedestrian survey of the entire project area was then completed using this database as a guide. During the survey, additional buildings were identified that appear to meet the age threshold for eligibility based on architectural style and date of construction of adjacent buildings. Both the buildings from the City's database and other buildings that appeared to meet the age threshold were photographed. Following the field survey, a database was created detailing the potentially eligible historic resources within the SPA. The database of all buildings included in this survey and photographs of the pre-1960 buildings are provided in Appendix D. A summary of architectural styles found in the SPA is provided in Table 4.5-4. A street by street summary of these buildings is provided below. Three properties were also evaluated for eligibility to the CRHR. These